CANADIAN CLIMATE CENTRE

REPORT NO. 91-8

MACKENZIE VALLEY CLIMATE STATIONS

by

David Etkin

ATMOSPHERIC ENVIRONMENT SERVICE

DOWNSVIEW, ONTARIO

1991

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A Publication of the Canadian Climate Program

93-00189/

The Mackenzie Valley Climate Stations

Abstract

Information on the quality of data, the homogeneity of temperature observations and the importance of local effects is presented for stations in the Mackenzie Valley. This summary will be useful to users who need to determine the availability and reliability of climate data in this area.

Des renseignements sur la qualité des données, l' homogénéité des données de température et l'importance deseffets locaux sont présentées pour des stations climatiques de lavallée du Mackenzie. Ce sommaire sera utile aux usagers qui veulent déterminer la fiabilité des données provenant des stations de cette région.

The Mackenzie Valley Climate Stations

Introduction

The collection of climate data in the Mackenzie Valley goes back to the late 1800's, although the majority of stations did not exist until after World War II. The effective use of climate data requires that the user have an appreciation for the importance of local effects, the quality of the data and for the presence of possible inhomogeneities which may exist in the data. This is particularly true for trend analysis. Unfortunately, it is often not possible to assess these factors to the degree to which one would like. Missing data, infrequent station inspections and a sparse data network all combine to make it difficult for the user to draw precise conclusions about the homogeneity and quality of data, as well as spatial variability of climate.

Some of the information needed to assess the usefulness of station data is in the Station Information System (SIS) in the mainframe computer at the Atmospheric Environment Service (AES) where the national climate archives are housed. Other information can only be gained by scouring the station inspection

files that document their history, or by looking at local maps. The purpose of this report is to provide a background for users, so that they can better assess the meaning of climatological analyses of the Mackenzie Valley region. The list of stations analyzed in this report is not comprehensive. A complete list of stations and documentation on their observing programs is published in a Climatological Station Catalogue, which is available from the Canadian Climate Centre. Data can be obtained by contacting the Products and Publications Division of the Canadian Climate Centre, 4905 Dufferin St., Downsview, Ontario, M3H 5T4

Analysis:

Where possible, the temperature data for each station has been tested for homogeneity by L. Malone and L. Vincent of the Development Climatology Division of the Canadian Climate Centre. The methodology used requires the presence of nearby stations of a similar climatological character (Vincent, 1990). A few stations did not meet this criteria. The results of these analyses are recorded on the sheets titled 'Temperature Series Homogeneity Report'. The elevations shown on the homogeneity analyses are determined by barometer locations. The elevations shown on the station summaries use instrument compound locations, and as a result may be different.

The station information is presented in a station by station format, including a summary of station history (taken from SIS and the files of inspection reports maintained for each station), a summary of gaps in the daily record of temperature and precipitation, a homogeneity analysis of monthly maximum and minimum temperatures, topographical maps on a 1:250,000 scale and air photographs obtained from the National Air Photograph Library in Ottawa. The stations for which this information is presented are listed in table 1. A map of the region is shown in figure 1.

Table 1

Mackenzie Valley Climate Stations

1. Aklavik
2. Cape Parry
3. Fort Good Hope
4. Fort Liard
5. Fort McPherson
6. Fort Providence
7. Fort Reliance
8. Fort Resolution
9. Fort Simpson
10. Fort Simpson A
11. Fort Smith A
12. Hay River A
13. Inuvik A
14. Norman Wells A
15. Tuktoyaktuk
16. Tungsten
17. Wrigley A
18. Yellowknife A

References:

Vincent, L., 1990: Time Series Analysis: A Method for Homogeneity Testing of Monthly Temperature Series. Unpublished report, Canadian Climate Centre, Downsview, Ontario, 9 pp.

Further Reading:

Burns, B.M., 1974: The Climate of the Mackenzie Valley-Beaufort Sea, vol. I and II. Climatological Studies no. 24, Atmospheric Environment Service, Downsview, Ontario, 466 pp.

Canadian Climate Program, 1984: Canadian Climate Normals, 1951-1980, vol. 1-8, Atmospheric Environment Service, Downsview, Ontario.

Canadian Climate Program, 1988: Climatic Atlas Climatique-Canada, Map Series 1-5, Atmospheric Environment Service, Downsview, Ontario.

Inversion, the Newsletter of Arctic Climate. Arctic Adaptation Division, Canadian Climate Centre, Downsview, Ontario.

Phillips, D., 1990: The Climates of Canada. Atmospheric Environment Service, Downsview, Ontario, 176 pp.

Stuart, R.A., Etkin, D.A. and Judge, A.S., 1991: Recent Observations of Air Temperature and Snow Depth in the Mackenzie Valley Area and their Implications on the Stability of Permafrost Layers. CCC Report 91-2. Atmospheric Environment Service, Downsview, Ontario, 175 pp.

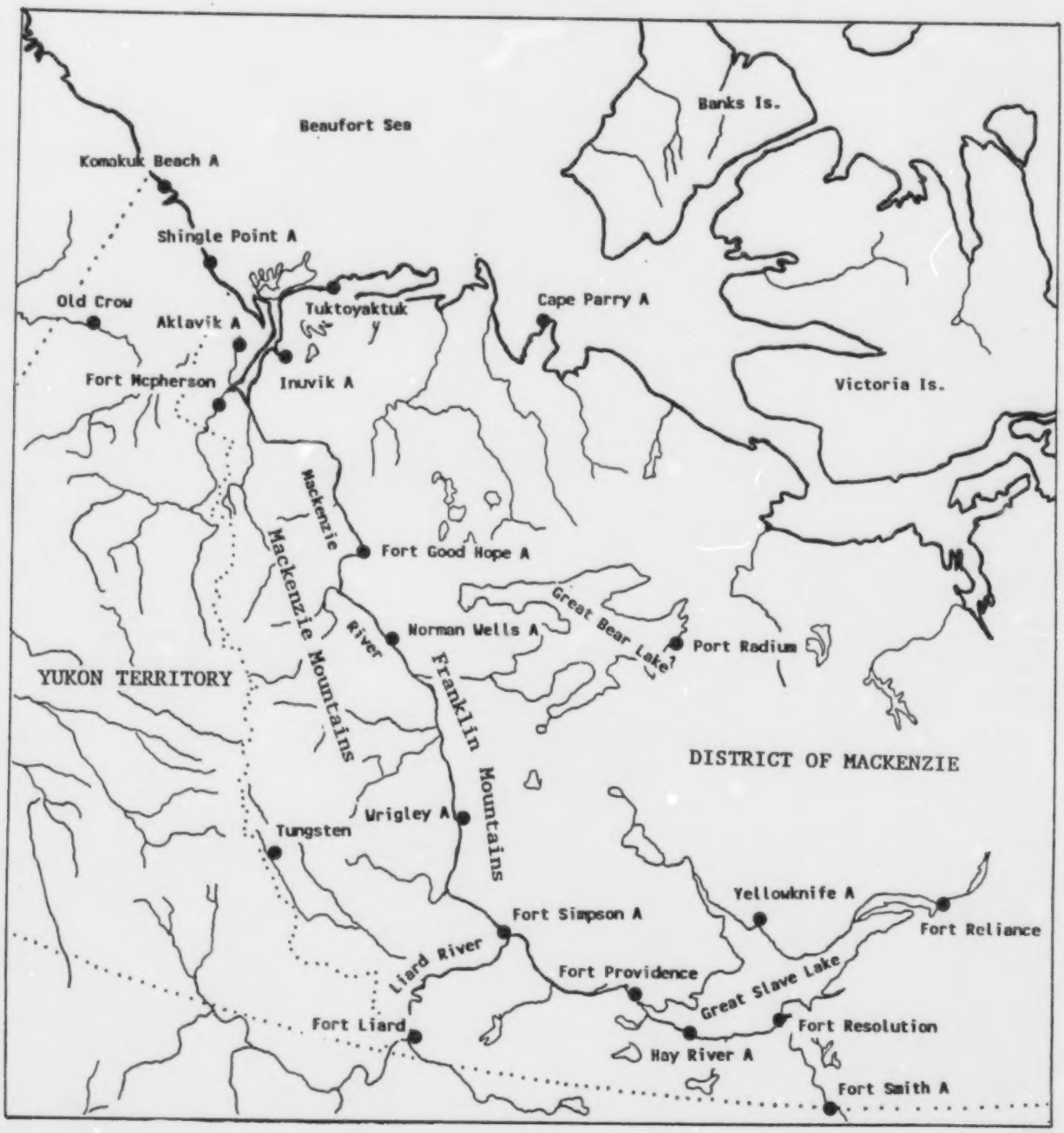

Beaufort Sea
Banks Is.
Komakuk Beach A
Shingle Point A
Old Crow
Aklavik A
Tuktoyaktuk
Cape Parry A
Fort Mcpherson
Inuvik A
Victoria Is.
Mackenzie
Mackenzie Mountains
Fort Good Hope A
Great Bear Lake
River
Norman Wells A
Port Radium
YUKON TERRITORY
Franklin Mountains
DISTRICT OF MACKENZIE
Wrigley A
Tungsten
Yellowknife A
Fort Reliance
Fort Simpson A
Liard River
Fort Providence
Great Slave Lake
Fort Liard
Fort Resolution
Hay River A
Fort Smith A

Figure 1

Station: Aklavik A

Latitude: 68° 13'N
Elevation: 10.2m

Longitude: 135° 00'W
Period of Record: 1926-1962
1980-current

Comments:

(1) This quote taken from a July 17, 1934 inspection report indicates possible early biases in temperatures in the entire Mackenzie Valley region.

> "The type of Max. supplied throughout the Mackenzie valley stations seems to be unsatisfactory. It is only possible to repeat the remarks of previous reports that a Max. is needed at these stations that will record a max. temp. less than 40 below".

Note that the units are in Fahrenheit. This quote has a rather significant impact on any trend analysis extending back into the early part of this century.

(2) No station inspection reports are available from 1934 to 1947.

(3) The quality of observing prior to 1947, appears to be suspect.

(4) Daytime temperatures taken in the summer of 1952 are not reliable as the Stevenson Screen door was broken and the sun was shining on the thermometers.

(5) A station move appeared to have occurred in 1957. The new site opened in 1980 is not at the same location as the old site (see air photographs).

Community History:
(source- Canada North Almanac, 1977)

Location: 68 degrees 12 minutes north, 135 degrees 00 minutes west; on the west channel Mackenzie River Delta (Peel Channel); 36 air miles west of Inuvik; 710 air miles northwest of Yellowknife.

Population: 700. **Languages Spoken:** Eskimo, English, Loucheux.

History: Small trading posts were established in the vicinity of Aklavik about 1910, originally on the east bank of the river. In 1912 the Hudson's Bay Company established a post at an Eskimo camp named Pakiak opposite the present site of Aklavik. The Eskimo name of Aklavik, meaning "place of the Barren Land Grizzly Bear", was given to the trading centre established on the present site after 1918. The Hudson's Bay Company did not move their trading post from Pakiak to Aklavik until 1926.

As a result of its excellent location as a rich trapping area and a key transportation centre, Aklavik became the major centre in the area by 1920. An Anglican Mission was established in 1919 and in 1922 an R.C.M.P. post moved from Herschel Island to Aklavik. In 1925, a Royal Canadian Corps of Signals station was established and, in 1926, a Roman Catholic Mission.

By 1931 the population of the settlement and the surrounding area had reached 411. With the expansion of the Anglican and Roman Catholic hospitals and residential schools, the population increased steadily; this growth continued until 1952 when the population of the community and surrounding region reached 1556.

After serious floods in the early 1950's, the Federal Government decided to move the community to another location (see Inuvik). This move was only partially successful as, today, a predominately Loucheux and Inuit community is still thriving.

Location of Gaps in 'DLY' File

2200100 Aklavik A*

003 Daily Mean Temp (C)

27/02/26-27/08/11	34/01/12-34/02/09	34/11/23-34/12/17	36/05/01-36/06/30	39/03/01-39/12/31	41/09/01-41/09/30
41/11/01-42/01/31	43/08/01-43/09/30	44/08/01-44/08/31	60/11/14-61/05/02	62/04/01-80/12/09	80/12/31-81/02/01
81/05/01-81/08/03	81/09/01-81/11/01	82/01/20-82/01/31	82/12/21-82/12/29	83/06/30-83/08/08	84/02/08-84/02/19
84/04/13-84/04/23	84/06/01-84/07/03	87/06/27-87/08/12	88/06/27-88/07/31	88/12/09-88/12/18	

Period of Record *** 1926/07-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	82	91	50	15	7	7	2		1	1	1	2													1			17

2200100 Aklavik A*

012 Total Precipitation (mm)

27/03/01-27/08/11	36/05/01-36/06/30	39/03/01-39/12/31	40/03/01-40/05/31	43/08/01-43/09/30	43/12/01-43/12/31
44/08/01-44/08/31	60/11/15-61/04/30	62/04/01-80/12/09	80/12/31-81/02/01	81/04/01-81/07/31	81/09/01-82/06/30
83/07/01-83/07/31	84/02/10-84/02/18	84/04/13-84/04/22	84/06/01-84/06/30	87/06/27-87/08/11	87/12/11-87/12/19
88/06/27-88/07/31	88/11/05-88/11/12	88/12/09-88/12/17			

Period of Record *** 1926/07-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	9	12	6	4	2	1	1	1	3	1																		16

* gaps identified by dates are only those longer than 7 days

Temperature Series Homogeneity Report

Station

Aklavik A., N.W.T. 2200100

Site Co-ordinates

68°13'N 134°60'W 10.7m

Period of Analysis / Total Number of Months in Analysis

Not tested. Base isolated during period of available data.

Missing Data at Base

Maxima:
Minima:

Reference Series

	Name	Number	Elev.	Dist./ Dir. from Base
1.				
2.				
3.				
4.				
5.				
6.				

Analysis

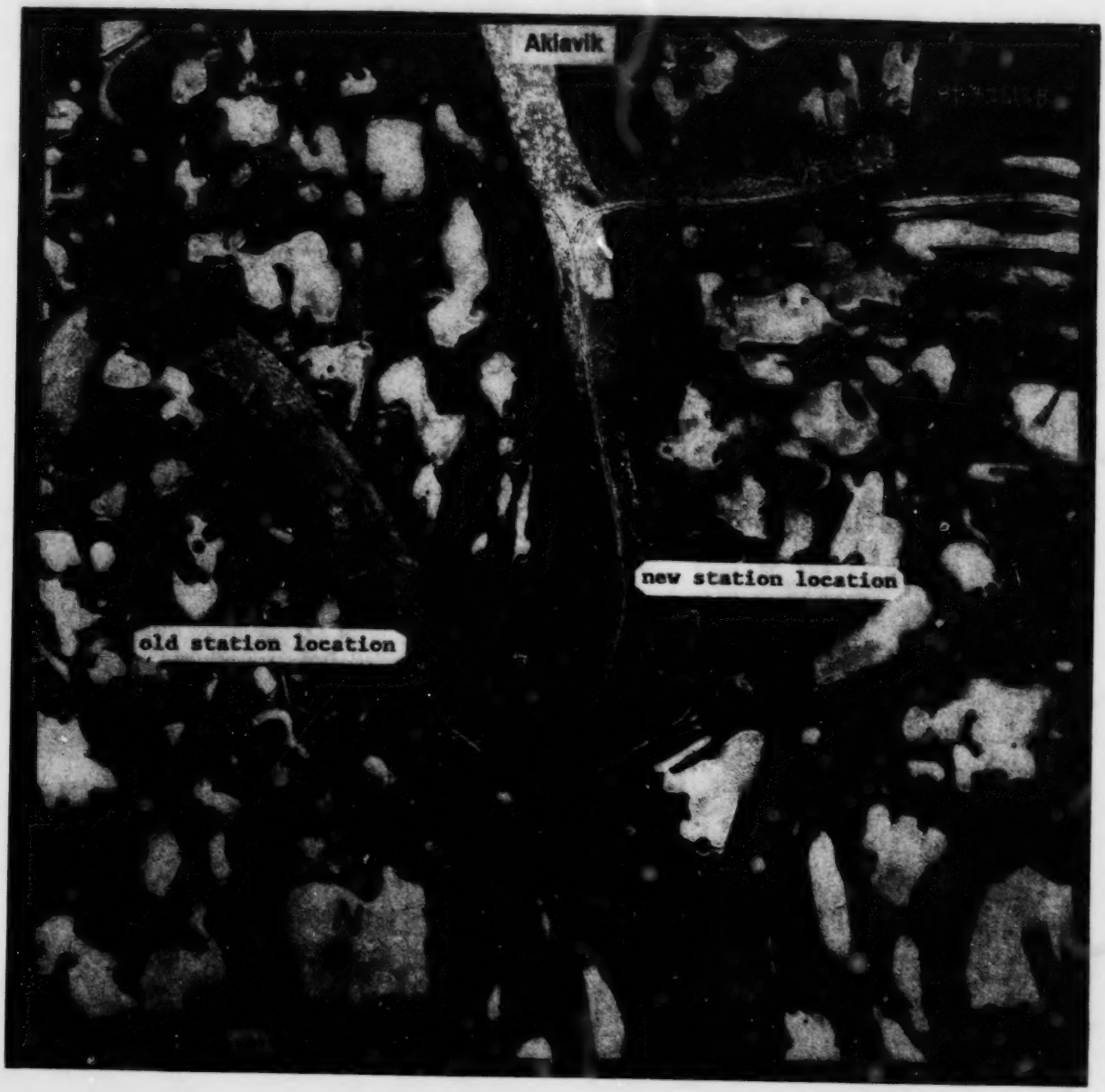
1. Maximum Temperature Series

2. Minimum Temperature Series

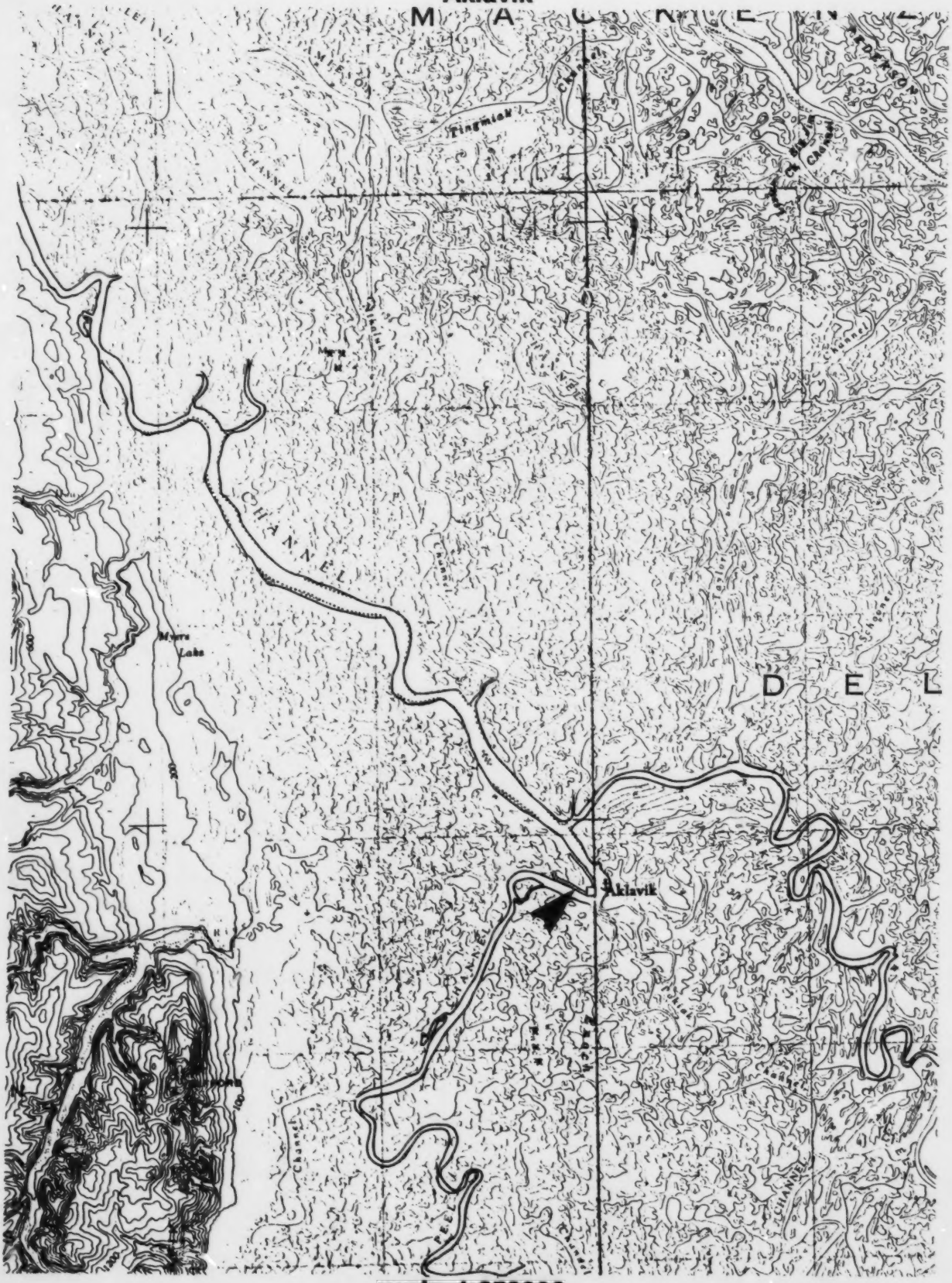
Station History

Not yet extracted.

Oct. 16,1990
LM


Aklavik
new station location
old station location

Aklavik



scale 1:250000

Station: Cape Parry A

Latitude: 70° 10'N
Elevation: 8.2 m

Longitude: 124° 41'W
Period of Record: 1955-current

Comments:

(1) In 1957 it was noted that the winds were not reliable due to the location of the instruments.

(2) In 1958 the Stevenson Screen was felt to be too close to a building. As a result a small move occurred in Sept. 1959.

(3) Ice thickness is measured near the abandoned village of Cape Parry.

(4) Freeze-up and break-up are observed on Gillet Bay and Amundsen Gulf.

(6) In 1988 it was noted that fuel tanks located about 100 m east of the instruments created drifting snow which tended to bury the instruments. As a result a small move occurred (date uncertain).

(7) Inspection reports indicate that this is a very good station.

(8) The site is located at the tip of the Parry Peninsula which juts into Amundsen Gulf. The surrounding area is mostly sea, broken by low islands and rolling terrain about 100 to 200 ft high. The site is protected to the northwest by hills one-half mile distant. A more detailed site description taken from a 1972 report follows.

> "Cape Parry is situated at the extreme northern tip of Parry Peninsula on Amundsen Gulf, with Franklin Bay to the west and Darnley Bay to the east. Directly west of Cape Parry are several small rocky islands, approximately four square miles in area, at a distance of six miles.
>
> The terrain in the area is generally very uneven and boulder strewn with numerous hills or rock formations. Hills range in height from 100 ft. to 350 ft. above sea level, and take no particular pattern. Another feature of the area are numerous small bays, inlets and fresh water lakes ranging in size from a few hundred yards in diameter to several miles; water covers about 1/4 of the land mass.

Being above the tree line, vegetation consists primarily of arctic grasses and mosses, however, several varieties of small flowering plants also grow.

For approximately seven months of the year... the waters surrounding Cape Parry are completely ice covered. The surface of the ice, with the exception of protected bays, is very rough due to pressure ridging.

The major portion of the DEW site is built on top of a 350 ft. hill, the highest in the area, on top of which is a 75 ft. radar dome. Meteorological observations are taken at the airstrip located 1/2 miles to the SW at the foot of the hill, elevation 50 ft.

One half mile SE and parallel to the airstrip is a low line of hills elevation about 150 ft.

An interesting phenomenon, while some distance from Cape Parry, are the smoking hills. Deposits of low grade coal along the banks of the west side of Franklin Bay are burning along a distance of some miles. At times a considerable amount of smoke is emitted. The phenomenon has a history of many years."

The climate of Cape Parry is very much influenced by its proximity to water. Winds are generally moderate to strong, mostly from the east through to the northwest. During winter months blowing snow is very common and the snowcover becomes very hard packed; drifting is significant. During the summer when the water is open, fogs are common.

Location of Gaps in 'DLY' File

2200675 Cape Parry A

003 Daily Mean Temp (C)

58/02/07-58/03/25
58/03/31-58/03/31
58/04/03-58/04/24
58/04/27-58/04/28
58/06/12-58/06/18
59/01/03-59/01/03
59/01/07-59/01/07
59/02/14-59/02/19
59/02/21-59/02/21
59/08/18-59/08/18
59/09/14-59/09/30
81/12/18-81/12/20

Period of Record *** 1957/05-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	5	1	1			1	1										1					1						1

2200675 Cape Parry A

012 Total Precipitation (mm)

59/06/01-59/09/30
81/12/18-81/12/19

Period of Record *** 1957/05-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
		1																										1

Temperature Series Homogeneity Report

Station

Cape Parry A., N.W.T. 2200675

Site Co-ordinates

70°10'N 124°41'W 17.4m

Period of Analysis / Total Number of Months in Analysis

1957-1988 / 384 months

Missing Data at Base

Maxima: 6 monthly values are missing - 1.6% of total.
Minima: 9 monthly values are missing - 2.3% of total.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base
1. Nicholson Peninsula	2202750	97.6m	165 km 263°
2. Clinton Point	2200750	100.6m	162 km 112°
3. Sachs Harbour A.	2503650	86.6m	205 km 354°
4. Tuktoyaktuk	2203910	18.3m	329 km 260°

Analysis

1. Maximum Temperature Series

Homogeneous.

2. Minimum Temperature Series

Homogeneous.

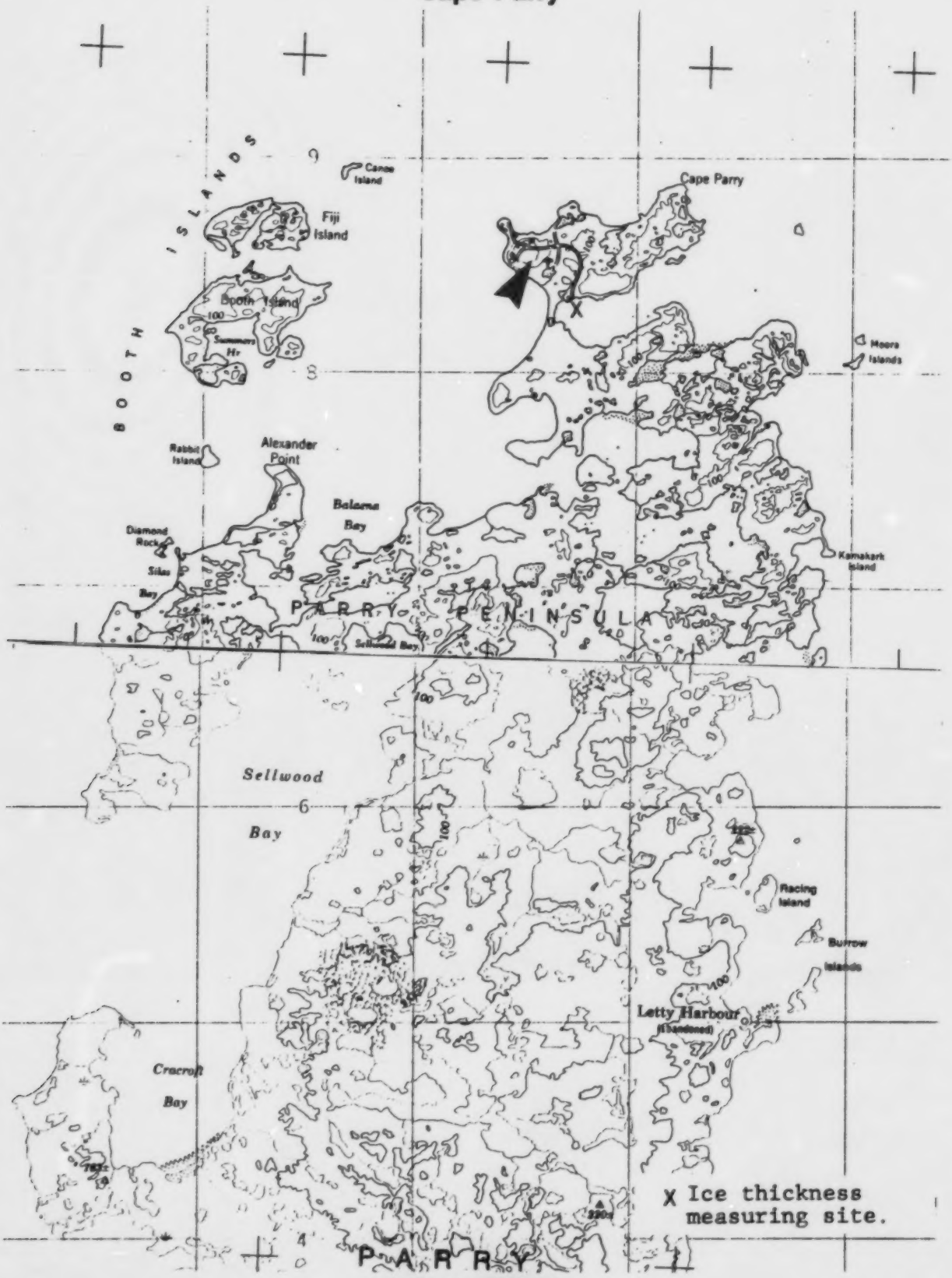
Station History

Not yet extracted.

Oct. 11. 1990
LM

Cape Parry

Cape Parry



scale 1:250000

Station: Fort Good Hope A

Latitude: 66° 16'N
Elevation: 52 m

Longitude: 128° 37'W
Period of Record: 1944-present

Comments:

(1) The location was first reported in 1947 as 66° 15' 128° 49'. A station move appears less likely than an incorrect station location determination.

(2) A 1949 report indicated that the instruments are sheltered from winds from the south to northeast due to a 100 ft. river bank. There were no subsequent reports until 1957.

(3) In June 1969 the barometer was noted as being off by 3 mb.

(4) The removal of some buildings between 1971 and 1974 resulted in an improved exposure, however, a building near the wind tower may have affected these observations. A small station move occurred in 1979.

(5) This station reports freeze-up and break-up of the Mackenzie River.

(6) Staffing problems have resulted in occasional periods of missing observations.

Community History:
(source- Canada North Almanac, 1977)

Location: 66 degrees 15 minutes north, 128 degrees 38 minutes west; on the east bank of the Mackenzie River; 500 air miles northwest of Yellowknife.

Population: 376. **Languages Spoken:** Loucheux and English.

History: Fort Good Hope is the oldest settlement in the lower Mackenzie River Valley. It was established in 1805 by the Northwest Company and changed locale a number of times before returning to its present site. It remained at its present location from 1808-1823. In 1821, the Hudson's Bay Company took over the post from the Northwest Company and in 1823 moved downstream to the mouth of Trading River at the request of the Loucheux people. Again, in 1826-1827, the post was moved because trade with the Inuit didn't materialize and it was re-located about 100 miles upstream to Manitou Island. The fort on Manitou Island was destroyed by ice in 1836 and the Hudson's Bay Company rebuilt in 1836-1839 on the mainland.

In 1859, Father Grollier accompanied the Hudson's Bay Company as far north as Fort Good Hope, near which he built a Mission, at the mouth of the Hare Indian River. Father Emile Petitot was stationed in Fort Good Hope in 1865 and is noted not only for his missionary work but also as an explorer.

The Loucheux Dene, the vast majority of its inhabitants, still practise to a large extent the old way of life on the land, with trapping being a major activity. Hunting and fishing are also carried out, with some wage employment being available from the oil exploration activities in the area.

Location of Gaps in 'DLY' File

2201400 Fort Good Hope A* 003 Daily Mean Temp (C)

50/10/01-51/03/31	58/06/01-58/06/30	60/05/01-60/10/31	60/12/31-61/04/30	61/07/06-61/07/29	70/11/01-70/11/30
71/02/01-71/03/31	72/03/01-72/03/31	72/07/01-72/07/31	78/06/30-78/12/03	79/02/02-79/02/12	79/08/30-81/08/03
81/10/01-82/01/03	82/05/27-82/06/06	82/10/26-82/11/02	83/10/19-83/11/01	84/05/03-84/05/13	84/08/10-84/08/19
84/12/01-85/01/01	85/05/04-85/05/15	85/08/16-85/09/02	86/06/10-86/06/17	86/07/01-86/07/21	87/07/01-87/07/31
87/09/01-87/12/31	88/01/09-88/01/24				

Period of Record *** 1944/08-1988/04 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	19	66	134	17	9	5	1	2		1	3	1		1		1		1			1			1				14

2201400 Fort Good Hope A* 012 Total Precipitation (mm)

50/10/01-50/10/31	54/06/01-54/06/12	54/06/18-54/06/30	54/08/06-54/08/15	54/08/26-54/09/10	55/01/01-55/01/31
55/05/01-55/06/30	55/08/01-55/09/30	55/12/01-55/12/31	56/02/01-56/03/31	60/05/01-60/10/31	61/01/01-61/01/31
64/05/01-64/05/31	70/11/01-70/11/30	71/02/01-71/03/31	72/03/01-72/03/31	72/07/01-72/08/31	78/07/01-78/11/30
79/09/01-81/07/31	81/10/01-81/12/31	83/10/19-83/10/30	84/05/03-84/05/13	84/08/10-84/08/18	84/12/01-84/12/31
85/05/04-85/05/14	85/08/16-85/08/31	86/04/10-86/04/20	86/06/06-86/06/17	86/07/01-86/07/21	87/04/10-87/04/19

Period of Record *** 1944/08-1988/04 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	4	4	3	4		2	2		1	2	3	3	1		1	2					1							19

* gaps identified by dates are only those longer than 7 days

Temperature Series Homogeneity Report

Station

Fort Good Hope A., N.W.T. 2201400

Site Co-ordinates

66°16'N 128°37'W 51.8m

Period of Analysis / Total Number of Months in Analysis

1945-1977 / 396 months

Missing Data at Base

Maxima: 23 monthly values are missing - 5.8% of total.
Minima: 17 monthly values are missing - 4.3% of total.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base	
1. Norman Wells A.	2202800	67.1m	137 km	142°
2. Wrigley A.	2204000	150.0m	419 km	142°
3. Fort McPherson	2201600	30.5m	303 km	298°
4. Inuvik A.	2202570	68.0m	308 km	319°

Analysis

1. Maximum Temperature Series

Uncertain. Poor reference series.

2. Minimum Temperature Series

Uncertain. Poor reference series.

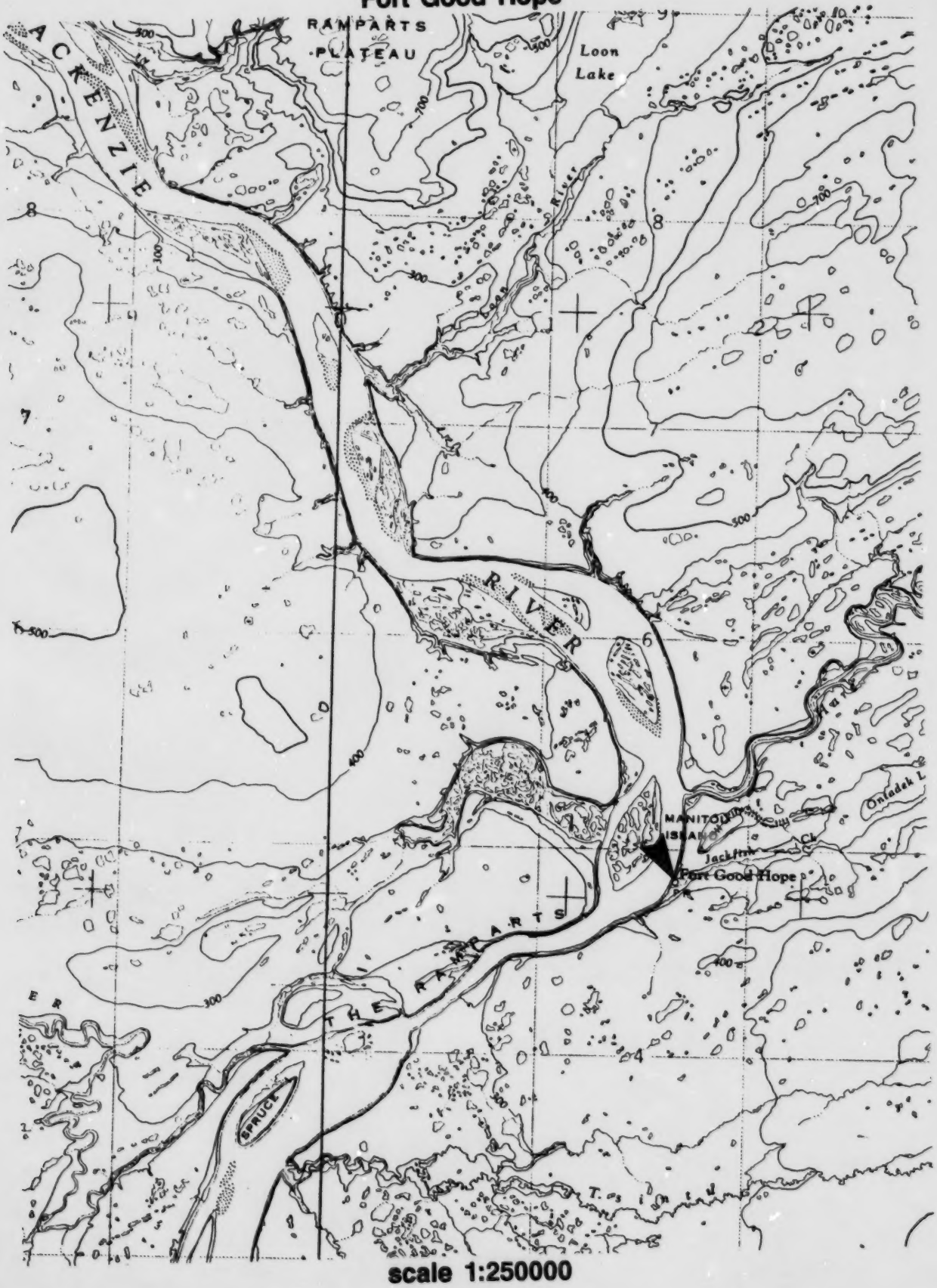
Station History

Attached.

Oct. 18,1990
LM

Fort Good Hope
A25987-12

Fort Good Hope



scale 1:250000

Station: Fort Liard

Latitude: 60° 14'N
Longitude: 123° 28'W
Elevation: 213 m
Period of Record: 1973-present

Comments:

(1) Some observations date back to 1892/93, but no documentation is available.

(2) Break-up and freeze-up of the Liard River is observed.

(3) There are various gaps in the data record, probably due to staffing problems.

(4) In 1987 the wind tower was moved away from trees closer to the runway. There have been other moves, apparently of a rather minor nature.

(5) A site description taken from a November, 1983 inspectors report is copied below.

> "Fort Liard is 167 km north-northwest of Fort Nelson, B.C., and 209 km southwest of Fort Simpson. The surrounding country is high foothills and heavily treed. The Liard River is 1 km to the west, with the Petitot River 0.08 km to the south. An Atco trailer serves as the observer/ communicators office, located adjacent to and on the west side of the ramp.
>
> Trees, 25 ft.(?) high, are 70 m to the west of the temporary instrument area."

An earlier site description (May, 1976) indicated that:

> "the Liard River is approximately 60 ft northwest of the instrument area. Instruments are located on the residential compound of the Federal Government, Northwest Land and Forest property in the southwest corner of the property in an area about 35 square feet. The instruments are well exposed with no obstructions."

The same 1976 report noted that a single log railing caused "a rain shadow on the rain gauge...the rain gauge is mounted at a non-standard height because of children and dogs."

Community History:
(source- Canada North Almanac, 1977)

Location: 60 degrees 15 minutes north, 123 degrees 28 minutes west; on the south bank of the Liard River; 338 air miles southwest of Yellowknife.

Population: 253. **Languages Spoken:** Slavey and English.

History: The Northwest Company established the first post in this area prior to 1807. George Simpson, in his report to the Governor and committee dated May 18, 1821, mentions that company post was "amongst the first established in the District, but abandoned several years ago in consequence of the people being massacred."

The "Riviere aux Liard" post was taken over in 1821 by the Hudson's Bay Company when that company and the North West Company amalgamated.

Traditional hunting and trapping are still primary sources of income. Summer wage employment is available with forestry and the Territorial Government.

Location of Gaps in 'DLY' File

2201575 Fort Liard A 003 Daily Mean Temp (C)

73/07/01-73/07/22 73/12/18-73/12/31 76/02/20-76/02/22 76/02/27-76/02/29 80/01/01-80/02/29 81/11/01-81/11/30
82/12/01-82/12/31 84/12/01-84/12/31 88/10/01-88/10/31

Period of Record *** 1973/07-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
			2											1								1						5

2201575 Fort Liard A 012 Total Precipitation (mm)

73/07/01-73/07/25 76/02/27-76/02/28 80/01/01-80/02/29 81/11/01-81/11/30 82/12/01-82/12/31 84/12/01-84/12/31
88/10/01-88/10/31

Period of Record *** 1973/07-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
		1																							1			5

Temperature Series Homogeneity Report

Station

Fort Liard A., N.W.T. 2201575

Site Co-ordinates

60°14'N 123°28'W 213.4m

Period of Analysis / Total Number of Months in Analysis

1974-1988 / 180 months

Missing Data at Base

Maxima: 6 monthly values are missing - 3.3% of total.
Minima: 6 monthly values are missing - 3.3% of total.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base
1. Fort Simpson A.	2202101	168.3m	208 km 35°
2. Wrigley A.	2204000	150.0m	332 km 0°
3. Hay River A.	2202400	165.5m	426 km 78°
4. Hay R. Paradise Gdns.	2202405	213.4m	413 km 80°

Analysis

1. Maximum Temperature Series

Uncertain. Poor reference series.

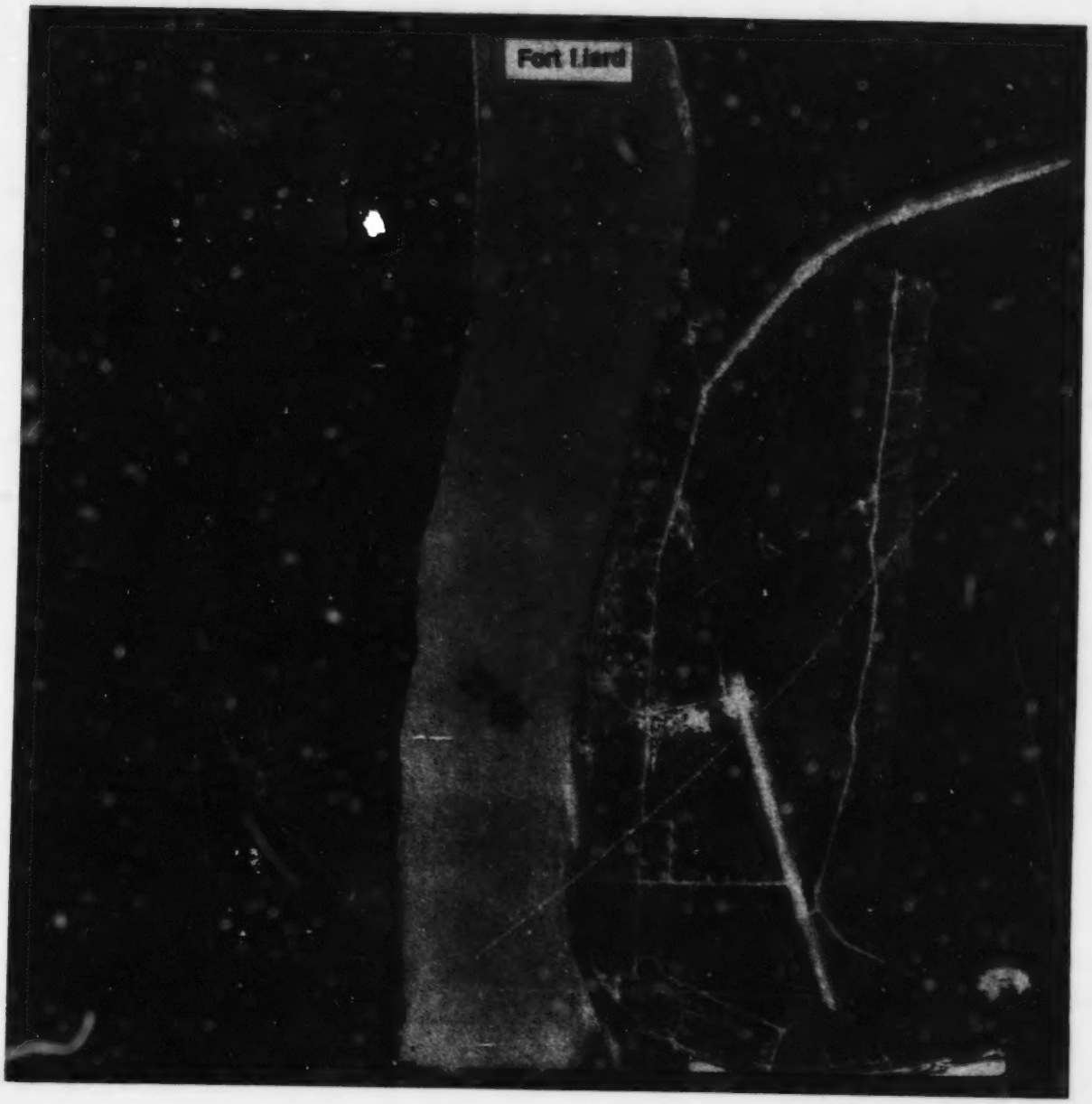
2. Minimum Temperature Series

Uncertain. Poor reference series.

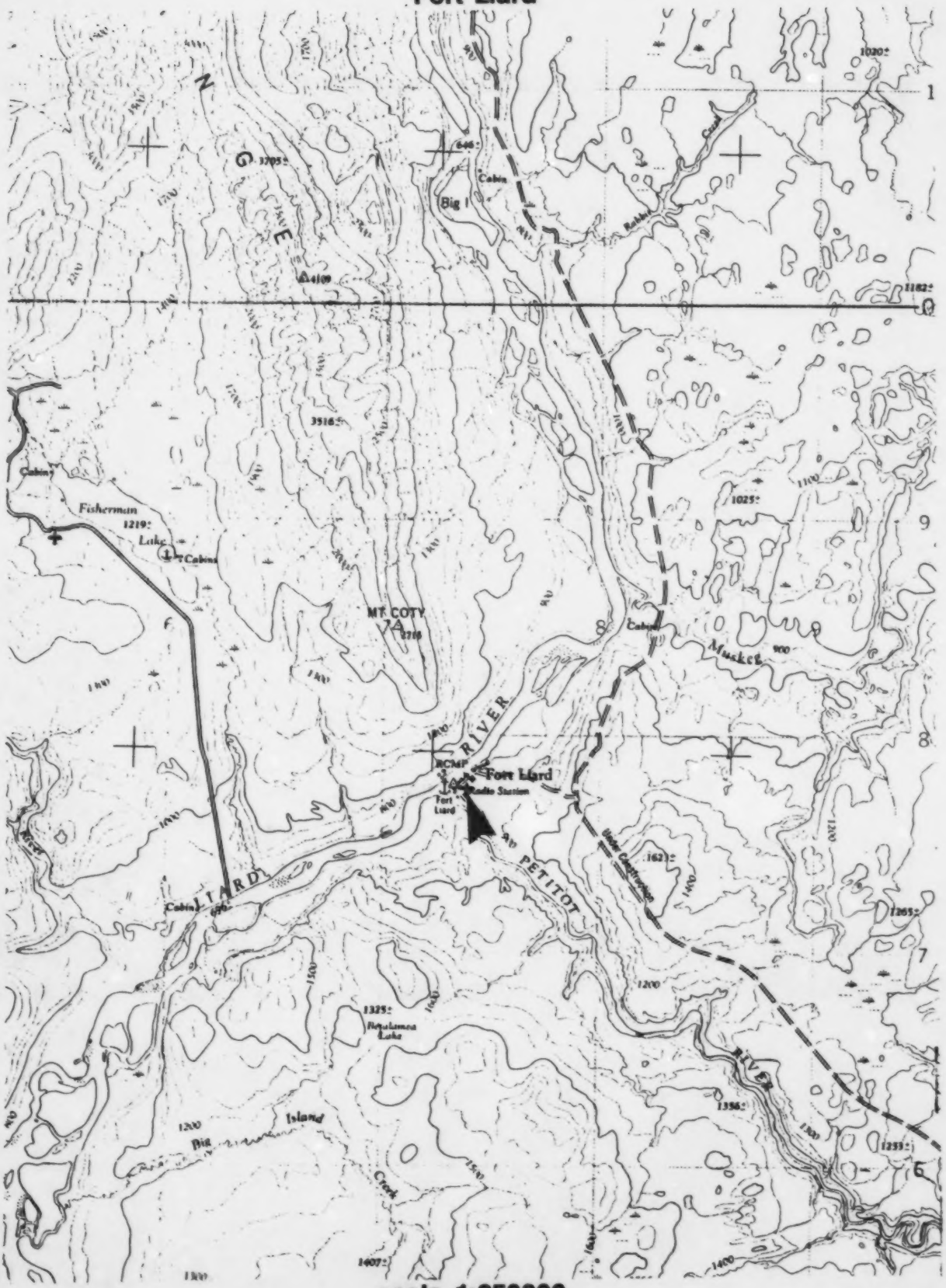
Station History

Not yet extracted.

Oct. 18,1990
LM


Fort Laird

Fort Liard


Fort Liard
RCMP
Radio Station
Fort Liard
MT. COTY
Fisherman Lake
Cabins
Cabin
Big Island
Creek
Regulateur Lake
Muskeg
Cabins
Cabin
Cabins
Cabin
Cabin
RIVER
PETITOT
RIVER
LIARD
Cabins
Cabin
Cabin
Cabin

Station: Fort McPherson A

Latitude: 67° 24'N
Elevation:43.0 m

Longitude: 134° 51'W
Period of Record: 1981-present

Comments:

(1) This station appears to provide quite a good quality dataset overall, although it could be more complete.

(2) This station was preceded by Fort McPherson (2201600), which reported at various times from 1892 to 1977. There is virtually no information readily available by which one can assess this station. Three inspection reports exist, from the years 1934, 1971 and 1974. Quality appears to be quite variable in the early years. For example, the inspection report from 1934 noted the following:

> "The observer ... has apparently taken no interest or performed the work with any sense of responsibility. ...he has in cases entered what he thought would be the probable reading rather than read the instruments...
>
> The work is being taken over by The Rev. Tom Greenwood ... and from my necessarily close knowledge of him I can assure you that he will be very conscientious in any reports he sends in."

(3) The following site description is taken from a September, 1977 inspectors report.

> "Fort McPherson Airport is located adjacent to the Dempster Highway approximately four miles south of the settlement. The airport itself and all areas to the east lie in a moderately forested and water covered flatland similar to the Mackenzie Delta. To the immediate west is the Peel River. West of the river, the terrain rises relatively sharply to an elevation exceeding 3000 ft, approximately 35 miles distant. The airport site lies on the highest land in the immediate vicinity and is surrounded on the northeast and south sides by a predominantly coniferous forest with a maximum height of approximately 40 ft. All meteorological equipment meets AES exposure standards with the exception of the anemometer system which, due to forest clearing restriction, was slightly compromised with relation to exposure."

The same report indicated that:

"Due to ongoing airport construction, substantial amounts of debris and supplies as well as a storage building, are still in the area of the instrument compound, but will be removed when construction is complete."

Community History:
(source- Canada North Almanac, 1977)

Location: 67 degrees 27 minutes north, 134 degrees 53 minutes west; on the east bank of the Peel River, 24 miles from its junction with the Mackenzie River; 75 air miles south of Inuvik; 688 miles northwest of Yellowknife.

Population: 789. **Languages Spoken:** Loucheux and English.

History: In 1848, Fort McPherson was named after Murdoch McPherson, chief trader of the Hudson's Bay Company. Prior to the establishment of this post, the natives traded at Good Hope, 200 miles away. In 1852, an Indian village situated on the bank of the Peel River opposite Stony Creek was moved for two reasons - to avoid being flooded out and to take advantage of the view afforded by the post site to spot approaching enemy Inuit. It is known that from 1849 to 1859 the local Loucheux Indians were engaged in frequent feuds with the Inuit.

Fort McPherson, in its early years, was used as a link with the Yukon after the Upper Liard/Frances Lakes/Pelly route was abandoned.

Today, Fort McPherson is still an important trapping centre, especially for mink and musk-rat, but this is now supplemented by such activities as oil exploration, work on the Dempster Highway (which will connect to Dawson City, Yukon), a canvas product manufacturing venture, handicrafts and government employment.

Location of Gaps in 'DLY' File

2201601 Fort Mcpherson A* 003 Daily Mean Temp (C)

81/08/01-81/08/09 81/09/01-81/11/01 82/08/13-82/08/22 82/09/30-82/10/17 82/12/24-83/01/17 84/06/02-84/06/11
84/07/25-84/09/09 84/12/01-85/01/13 85/03/01-85/03/31 85/11/01-85/11/30

Period of Record *** 1981/08-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	19	74	43	15	10	5	1		1	2								1							1			5

2201601 Fort Mcpherson A* 012 Total Precipitation (mm)

81/08/01-81/08/08 81/09/01-81/10/31 82/05/01-82/05/31 82/08/13-82/08/22 82/10/01-82/10/16 84/06/02-84/06/10
84/07/25-84/09/08 84/12/01-85/01/13 85/03/01-85/03/31 85/11/01-85/11/30

Period of Record *** 1981/08-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	11	12	11	2	2			1	1	1						1												6

* gaps identified by dates are only those longer than 7 days

Temperature Series Homogeneity Report

Station

Fort McPherson A., N.W.T. 2201601

Site Co-ordinates

67°24'N 134°51'W 43.3m

Period of Analysis / Total Number of Months in Analysis

1982-1988 / 84 months

Missing Data at Base

Maxima: 22 monthly values are missing - 26.2% of total.
Minima: 29 monthly values are missing - 34.5% of total.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base
1. Aklavik A.	2200100	10.7m	91 km 356°
2. Tuktoyaktuk	2203910	18.3m	241 km 17°
3. Tuktoyaktuk A.	2203912	4.6m	238 km 17°
4. Inuvik A.	2202570	68.0m	115 km 29°

Analysis

1. Maximum Temperature Series

Uncertain. Missing data and the short period tested are factors.

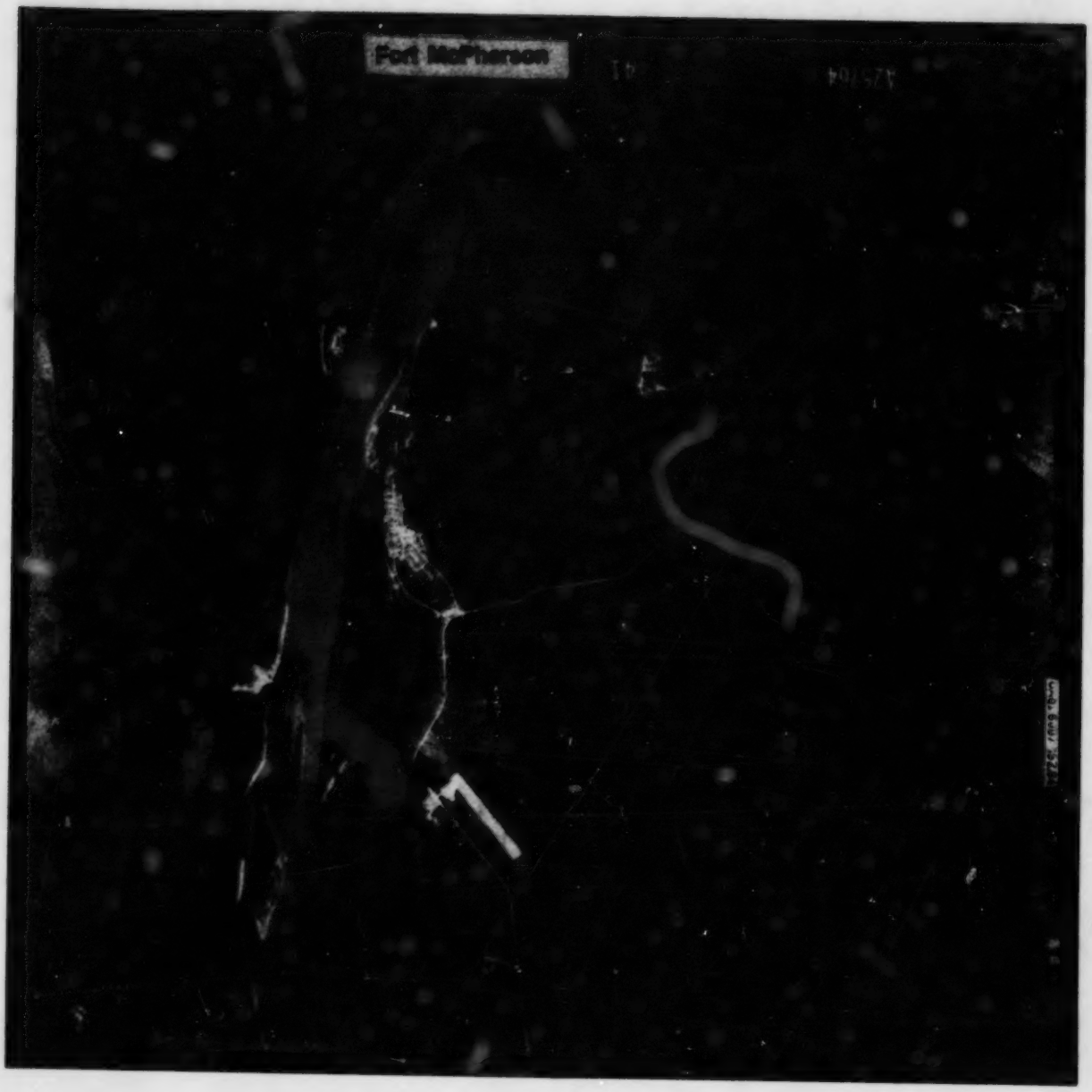
2. Minimum Temperature Series

Uncertain. Missing data and the short period tested are factors.

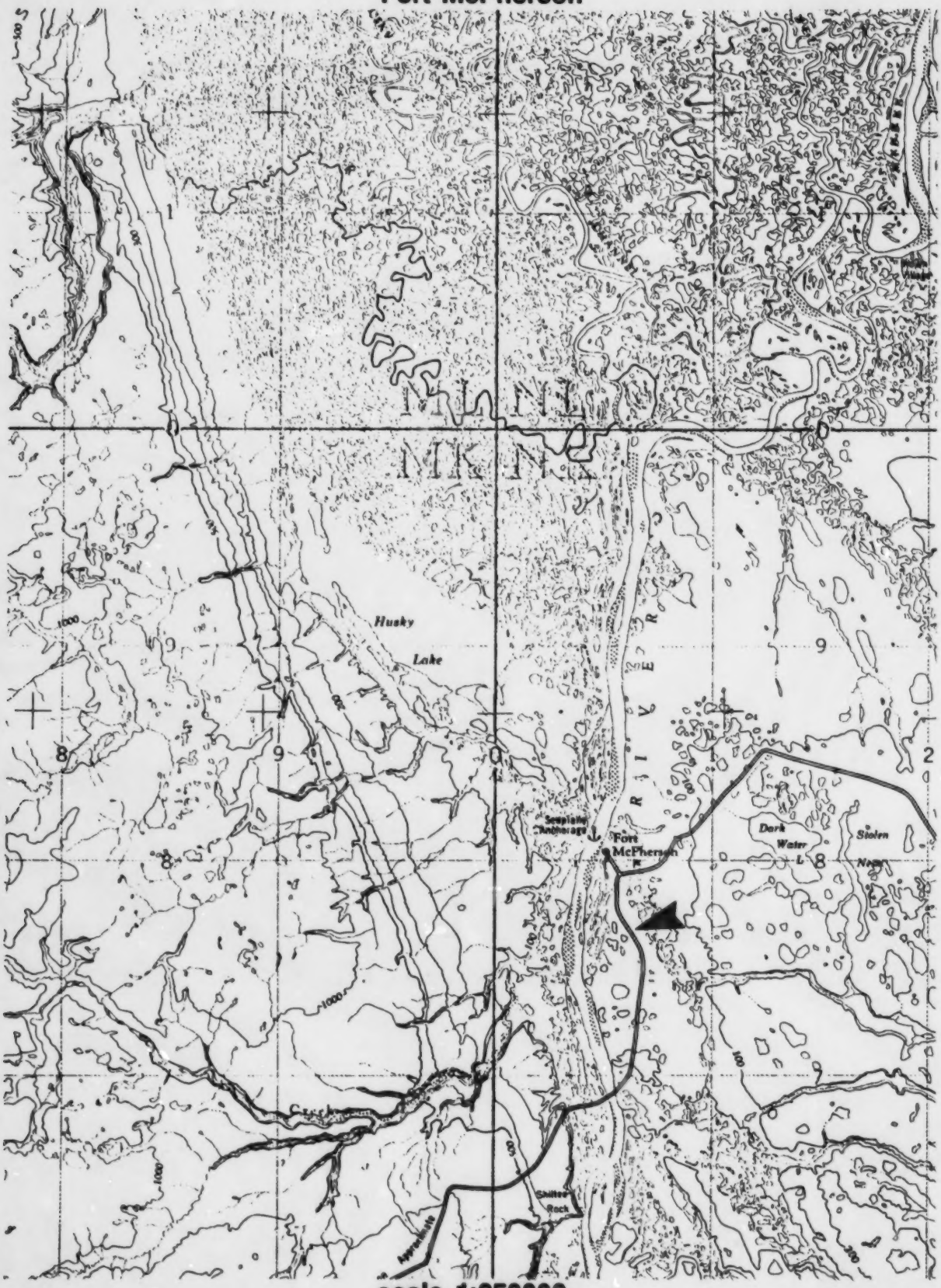
Station History

Not yet extracted.

Oct. 18,1990
LM


Pat Morrison

Fort McPherson



scale 1:250000

Station: Fort Providence

Latitude: 61° 20'N
Elevation: 159 m

Longitude: 117° 40'W
Period of Record:1943-1982

Comments:

(1) Snow depths are obtained through ruler measurements around the yard.

(2) Freeze-up and break-up of the Mackenzie River are observed.

(3) There are large gaps in the station record file; documentation is poor.

(4) The following site description is taken from a July, 1973 report.

> The site is ..."located on the north bank of the Mackenzie River and at the east edge of Fort Providence. The natural grass (short) site is approx. 30 ft. above and 175 ft. north of the river which is about 1 mile wide at this point. Instrument exposure is good in all direction but east. Property boundary lines did not permit the site to be located any further west of a large poplar/spruce grove (18 ft. to 35 ft. high). The anemometer tower is 70 ft. west of the grove, and stevenson screen 100 ft. west. The stevenson screen and rain gauge are located slightly outside the property line and on a small portion of the 100 ft. wide road allowance. The surrounding country is predominantly flat and thickly forested."

Community History:
(source- Canada North Almanac, 1977)

Location: 61 degrees 21 minutes north, 117 degrees 40 minutes west; on the north bank of the Mackenzie River, about 45 air miles downstream from Great Slave Lake; 140 air miles southwest of Yellowknife; 199 road miles southwest of Yellowknife.

Population: 607 **Languages Spoken:** Slavey and English.

History: Fort Providence was first established by Peter Pond in 1786 but operated for only two years before being closed. The fort was re-opened and enlarged in 1789 by Laurent Le Roux, Alexander Mackenzie's assistant. It flourished as a post for 31 years until the time of Franklin. Franklin made his journey to the Coppermine River in 1820 and shortly thereafter the post was abandoned. A Roman Catholic Mission was established in the area in 1861 and named Notre Dame de la Providence.

Over the years, Fort Providence has been one of the largest agricultural centres of the Northwest Territories. The Fathers of the Roman Catholic Mission have approximately 80 acres of land under cultivation and raise vegetables and grain crops with some success. Prior to 1950, as many as 40 head of cattle were supported on the Mission farm.

At present, Fort Providence is a major rest-stop on the Mackenzie Highway system. Some sport fishing is carried on in the area, with grayling being the most common catch.

Location of Gaps in 'DLY' File

2201800 Fort Providence*

003 Daily Mean Temp (C)

44/01/16-44/12/05	50/10/18-51/01/02	51/03/17-51/08/24	53/02/01-53/02/16	56/12/24-57/01/09	62/06/23-62/07/17
62/08/01-72/10/17	75/12/01-76/01/14	78/01/05-78/01/23	78/12/01-79/02/15	80/01/06-80/01/31	80/12/02-80/12/10
80/12/18-81/01/26	81/12/24-82/02/05	82/02/23-82/03/03			

Period of Record *** 1943/03-1982/07 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	15	5		2	1		2		2							1	1		1						1	1		8

2201800 Fort Providence

012 Total Precipitation (mm)

44/01/16-44/11/30	58/10/26-58/10/26	62/06/23-62/07/17	62/08/01-72/10/17	75/12/01-76/01/01	76/01/03-76/01/03
76/01/08-76/01/08	76/01/11-76/01/11	78/01/05-78/01/23	78/12/01-79/01/31	80/01/06-80/01/31	80/12/18-81/01/25
82/01/01-82/01/31					

Period of Record *** 1943/03-1982/07 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	4																		1						1	1		6

* gaps identified by dates are only those longer than 7 days

Temperature Series Homogeneity Report

Station

Fort Providence, N.W.T. 2201800

Site Co-ordinates

61°20'N 117°40'W 159.5m

Period of Analysis / Total Number of Months in Analysis

1945-1961 / 204 months

Missing Data at Base

Maxima: 2 monthly values are missing - 1% of total.
Minima: no missing data.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base
1. Fort Simpson	2202100	128.7m	204 km 289°
2. Yellowknife A.	2204100	205.5m	211 km 52°
3. Yellowknife Hydro	2204200	159.5m	232 km 49°
4. Hay River A.	2202400	165.5m	116 km 118°
5. Fort Resolution A.	2202000	164.0m	214 km 93°
6. Fort Smith A.	2202200	203.0m	344 km 113°

Analysis

1. Maximum Temperature Series

Uncertain.

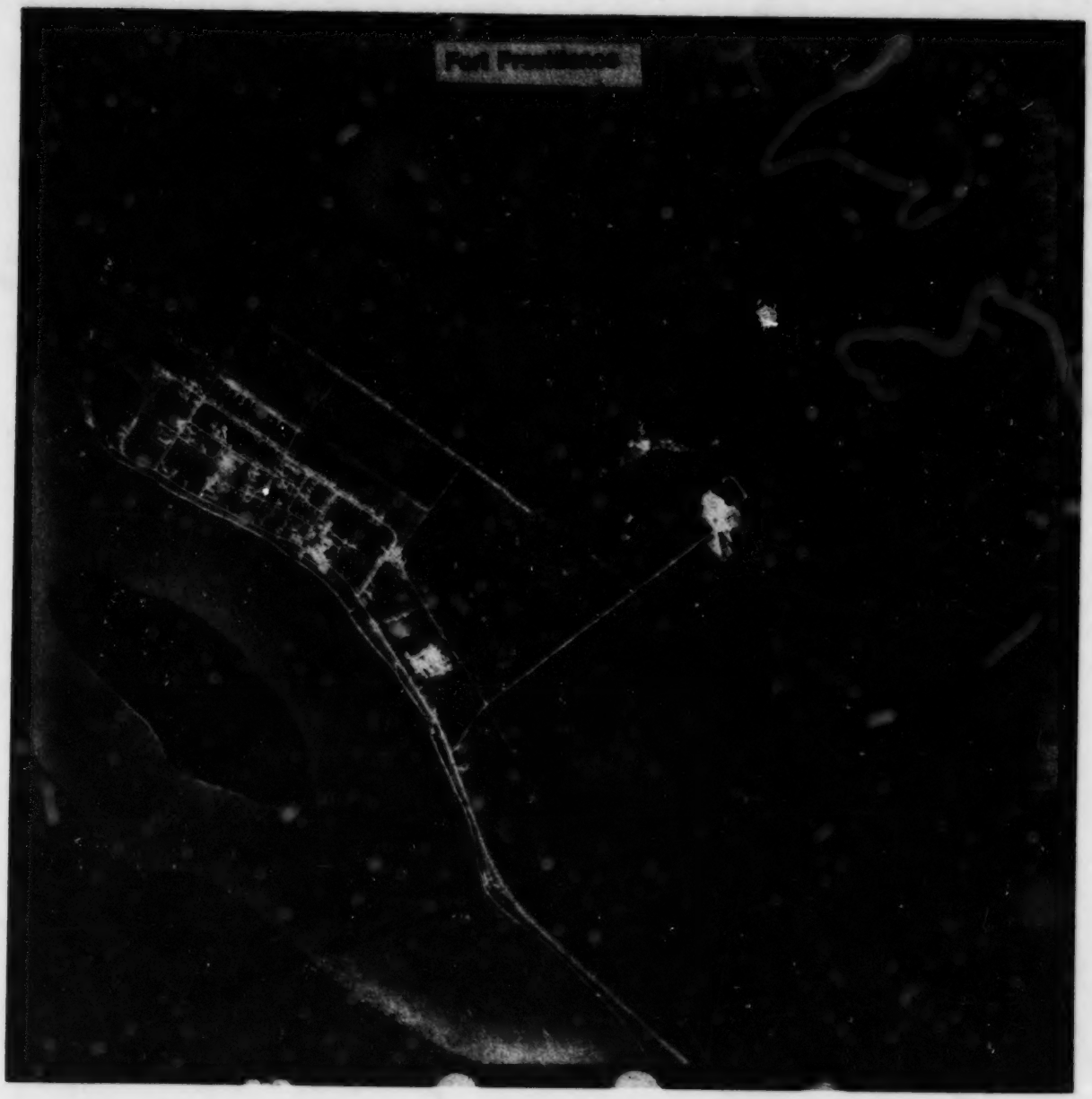
2. Minimum Temperature Series

Uncertain.

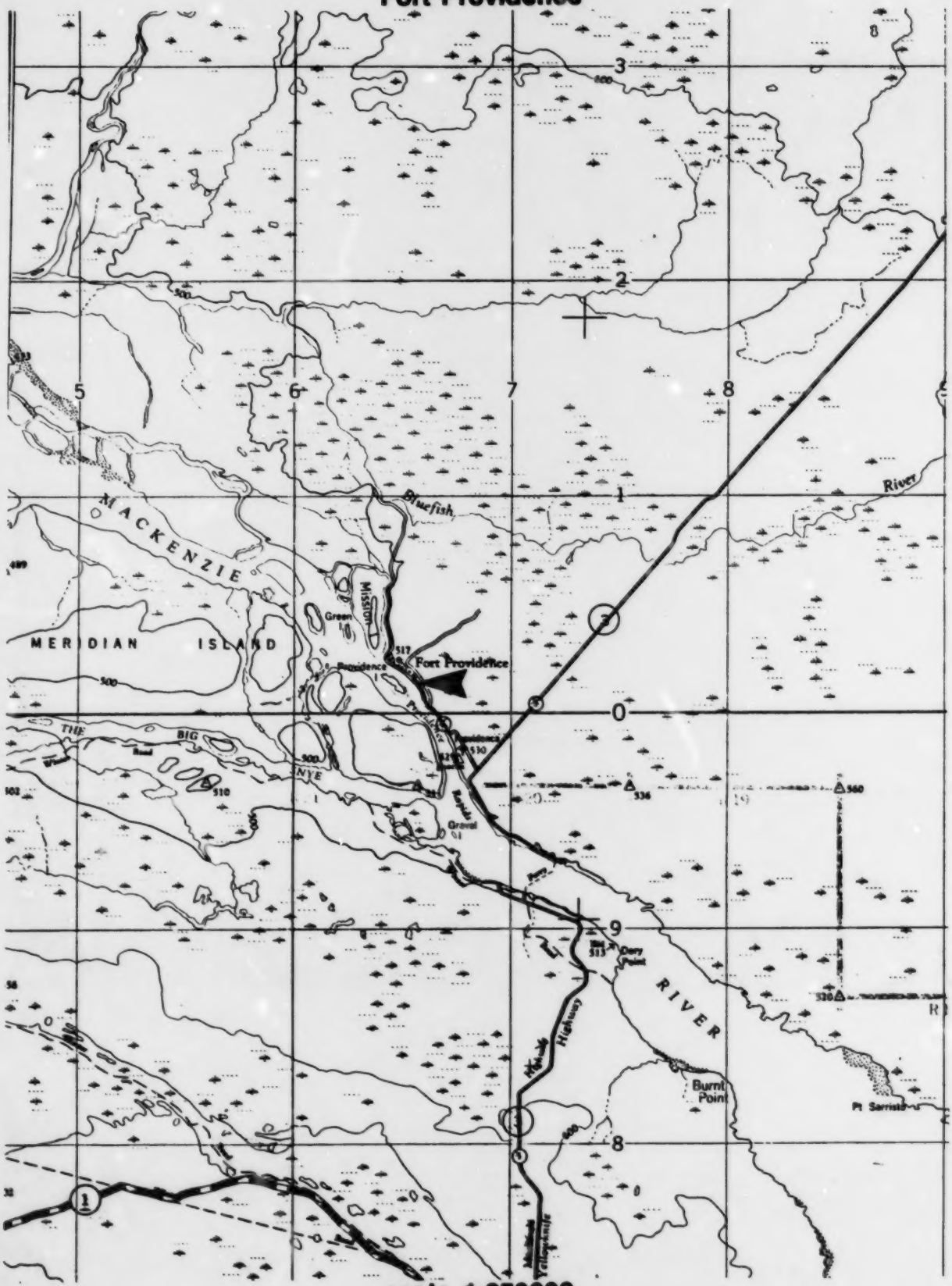
Station History

Not yet extracted.

Oct. 17,1990
LM



Fort Providence



scale 1:250000

Station: Fort Reliance

Latitude: 62° 43'N
Elevation: 164 m

Longitude: 109° 10'W
Period of Record: 1948-present

Comments:

(1) Inspection reports indicate that this is generally a good station. It's exact location prior to 1950 appears to be somewhat unclear.

(2) In 1959 the dew points reported might be too high, as it was indicated that the "wet bulb muslins were not changed enough".

(3) A 1965 report indicated that the instrument site is too close to the lake.

(4) A 5-point snow course was started in 1966, but relocated in 1969 to avoid excessive drifting and to be more representative. Also, in the summer of 1966 the snow gauge was relocated.

(5) On August 28, 1969 the site was moved 148 m southsouthwest to an elevation 8.3 m higher. The tower was previously sheltered but should now have better exposure from the north to southeast.

(6) Freeze-up and break-up are observed on Macleod and Charlton Bay on Great Slave Lake. Ice thickness measurements began in 1976.

(7) The site description below is taken from a May 1972 inspectors report.

> "Fort Reliance is located 150 ft from the tip of a peninsula extending 12 miles southwest from the north shore of Great Slave Lake. Another peninsula is 3/4 mile W and protrudes into the lake from the southwest. Beyond this peninsula is water for more than 60 miles west. South and east the shore is reached in 6 miles.
>
> The land is primarily spruce forest and hilly. Outcroppings of granite shale and quartzite occur frequently. The average altitude of the hill tops is 1,000 ft. MSL and that of the valleys between 550 ft. and 700 ft. MSL. Several hilltops attain an altitude of 1,400 ft. MSL beyond 9 miles of the station.
>
> One river of note enters the lake 12 miles northeast and, although it is not a wide river, it transports vast quantities of water. This influx

of water results in a noticeable current between the peninsula on which the station is situated and the one to the west.

The tree line is approximately 20 miles east and 50 miles north.

The peninsula 3/4 mile to the west and an island 3 miles long and 1 mile wide lying 2 1/2 miles to the southeast are the only other land masses near the station.

Dense black spruce forest predominates...The spruce average 20 ft. in height and 4 to 7 inches in diameter. Low bushes such as the blueberry, raspberry and gooseberry are widespread, and a layer of moss 4 to 6 inches thick forms the main ground cover. Beneath the moss is shale.

A small bay 1/2 mile wide begins immediately north of the station and extends 1 1/2 miles northeast. This bay is relatively sheltered form the wind in all directions and usually affords excellent landing and docking for aircraft. The 1/2 mile gap between the peninsulas is often open in winter due to the current..."

Community History:
(source- Canada North Almanac, 1977)

Location: 62 degrees 42 minutes north, 109 degrees 08 minutes west; off the Lockhart River; 173 air miles east of Yellowknife.

Population: 13. **Languages Spoken:** English.

History: The post was originally built by the Hudson's Bay Company in 1833, a short distance from the shore and about 20 feet above the water. It has been described as one of the most beautiful sites in Northern Canada; however, the ruins of two stone chimneys are all that remain of the old fort.

At present, the Department of Transport operates a meteorological station and an independent trader is located there. Fishing and trapping are the main resources of this area.

Location of Gaps in 'DLY' File

2201900 Fort Reliance

003 Daily Mean Temp (C)

48/10/01-48/10/14	51/02/01-51/02/14	52/01/08-52/01/10	52/01/13-52/01/14	52/01/18-52/01/21	52/01/25-52/01/25
55/02/28-55/03/02	55/12/19-55/12/19	58/01/31-58/01/31	58/02/03-58/02/06	58/02/08-58/02/08	58/02/11-58/02/11
58/02/13-58/02/16	58/02/18-58/02/20	58/02/24-58/02/24	58/02/26-58/02/26	58/03/01-58/03/02	58/03/06-58/03/06
58/03/12-58/03/13	58/03/15-58/03/15	58/03/17-58/03/20	58/03/22-58/03/22	58/03/29-58/03/31	58/05/19-58/05/19
58/08/01-58/08/08	82/08/31-82/08/31	82/09/09-82/09/09			

Period of Record *** 1948/10-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	13	3	4	4				1						2														

2201900 Fort Reliance

012 Total Precipitation (mm)

48/10/01-48/10/14 82/09/09-82/09/09	51/02/01-51/02/03	51/02/05-51/02/12	51/02/14-51/02/14	58/05/19-58/05/19	82/08/31-82/08/31

Period of Record *** 1948/10-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	4		1					1						1														

Temperature Series Homogeneity Report

Station

Fort Reliance, N.W.T. 2201900

Site Co-ordinates

62°43'N 109°10'W 164.3m

Period of Analysis / Total Number of Months in Analysis

1949-1988 / 480 months

Missing Data at Base

Maxima: 3 monthly values are missing - .6% of total.
Minima: no missing data.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base
1. Yellowknife A.	2204100	205.5m	272 km 266°
2. Hay River A.	2202400	165.5m	406 km 242°
3. Fort Resolution A.	2202000	164.0m	292 km 236°
4. Yellowknife Hydro	2204200	159.5m	260 km 271°

Analysis

1. Maximum Temperature Series

Homogeneous.

2. Minimum Temperature Series

Homogeneous.

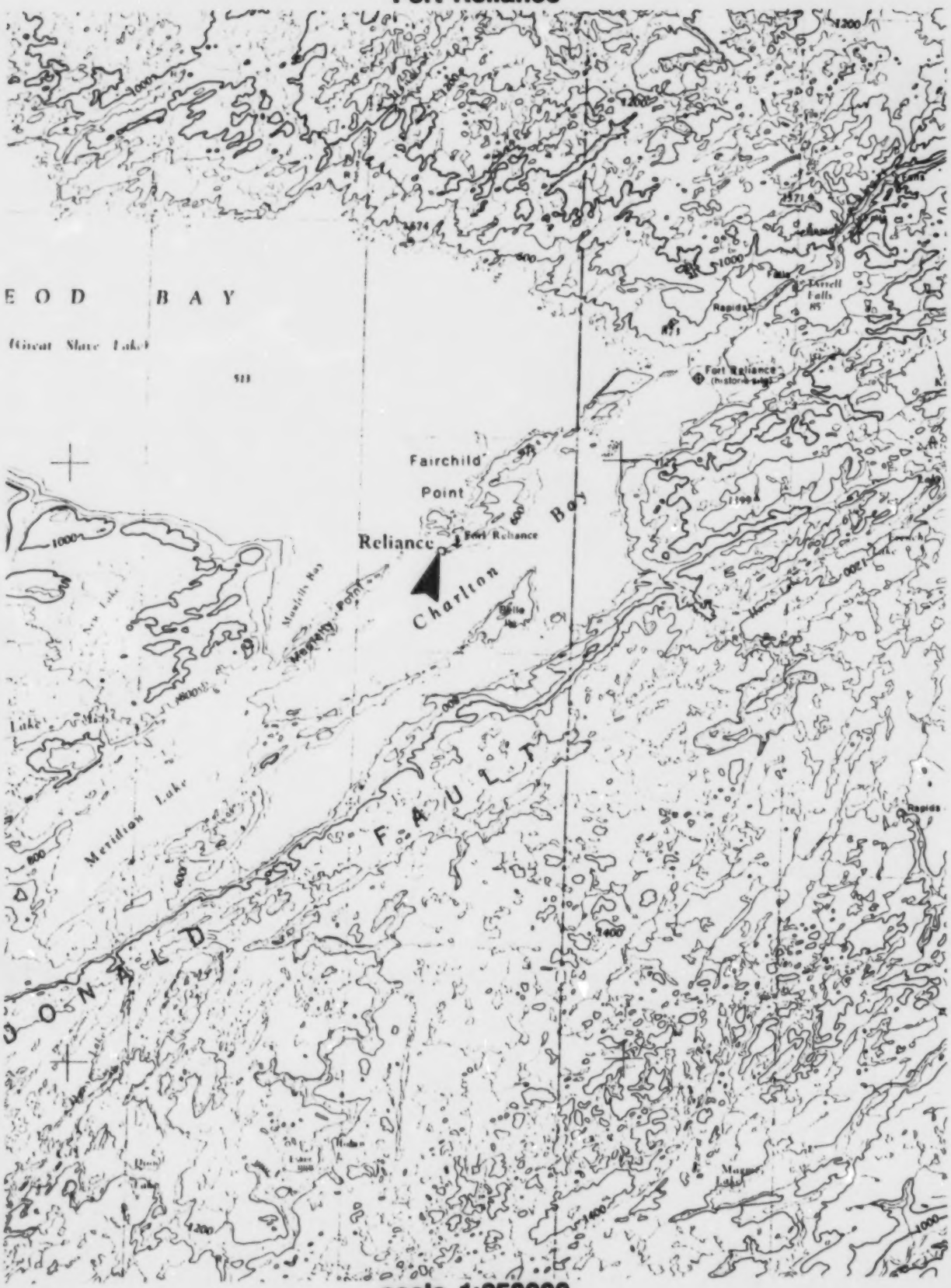
Station History

Not yet extracted.

Oct. 11, 1990
LM

Fort Relience

Fort Reliance



scale 1:250000

Station: Fort Resolution A

Latitude: 61° 11'N
Elevation: 164 m

Longitude: 113° 41'W
Period of Record: 1930-present

Comments:

(1) This station was preceded by Fort Resolution (2201998) located at latitude 61° 10', longitude 113° 40'. Data at this previous station exists for the year 1875 and the years 1910 to 1936.

(2) Overall the program at this station appears to be good. No documentation is available, however, prior to 1945.

(3) Prior to 1951 wind observations may not be reliable.

(4) A station move occured in 1968, from 61° 10' to 61° 11'.

(5) Freeze-up and break-up of Fort Resolution Bay are observed.

(6) The site description below is taken from a 1981 inspectors report.

> "The Fort Resolution airport is located on the northeast shore of Resolution Bay on the south shore of Great Slave Lake. The northwest to southeast runway parallels the shore of Resolution Bay and is approximately 1 km inland. The soil is gravel base with a mixture of black soil. Trees 10 to 12 m high surround the area and are of moderate density. The village of Fort Resolution is located approximately 1/2 km off the button of runway 29. The meteorological instrument area and airport terminal building are located on the SW side of the runway. The instrument area is well exposed and grass covered."

Community History:

(source- Canada North Almanac, 1977)

Location: 61 degrees 10 minutes north, 113 degrees 40 minutes west; on the south side of Great Slave Lake near the Slave River Delta; 95 air miles south of Yellowknife.

Population: 736. **Languages Spoken:** Chipewyan and English.

History: The famous trader Cuthbert Grant, together with Laurent Leroux, built a post for the Northwest Company on the Slave River near its mouth in 1786. A few years later, the traders moved their post to Moose Deer Island, a few miles from the old site. The Hudson's Bay Company had constructed a post in the vicinity at about the same time and, at the time of the union of the two companies in 1921, this post was called Fort Resolution.

The hospital at Fort Resolution was originally built to accommodate tuberculosis patients. About ten years ago, the care of TB patients was transferred to Camsell Hospital, Edmonton. Now the hospital is, in effect, a nursing station.

In recent years, a logging and sawmill operation has been established. Today, the logging operation appears to be a viable operation.

Location of Gaps in 'DLY' File

2202000 Fort Resolution A* 003 Daily Mean Temp (C)

30/09/01-30/09/17	37/09/01-37/09/30	38/03/01-43/02/28	44/02/18-45/07/31	45/11/01-45/12/14	46/12/26-47/01/03
53/01/09-53/01/16	54/12/10-55/01/03	75/06/15-78/01/21	78/10/18-78/11/01	79/10/01-79/10/31	82/10/15-82/10/25
83/03/12-83/03/21	83/07/16-83/07/24	84/08/28-84/09/30	84/11/01-85/01/02	85/02/19-85/03/02	85/08/01-85/08/31
86/08/12-86/09/01	86/11/01-87/01/03	87/05/01-87/05/31	87/12/24-88/01/03	88/07/21-88/08/01	

Period of Record *** 1930/09-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	313	114	41	22	8	1	2	1	2	1	2	2			1		1				1				1			11

2202000 Fort Resolution A* 012 Total Precipitation (mm)

30/09/01-30/09/17	35/07/01-35/07/31	37/09/01-37/09/30	38/03/01-43/02/28	44/02/18-45/07/31	75/07/01-78/01/19
79/10/01-79/10/31	82/10/15-82/10/24	83/03/11-83/03/20	83/07/16-83/07/23	84/09/01-84/09/30	84/11/01-85/01/01
85/02/19-85/03/01	85/08/01-85/08/31	86/08/12-86/08/31	86/11/01-86/12/31	87/05/01-87/05/31	87/12/24-87/12/31
88/07/21-88/07/31					

Period of Record *** 1930/09-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	19	15	11	4	2		1	2		2	2							1		1								11

* gaps identified by dates are only those longer than 7 days

Temperature Series Homogeneity Report

Station

Fort Resolution A., N.W.T. 2202000

Site Co-ordinates

61°11'N 113°41'W 164.0m

Period of Analysis / Total Number of Months in Analysis

1947-1974 / 336 months

Missing Data at Base

Maxima: no missing data.
Minima: no missing data.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base	
1. Hay River A.	2202400	165.5m	120 km	252°
2. Yellowknife A.	2204100	205.5m	149 km	345°
3. Fort Smith A.	2202200	203.0m	161 km	143°
4. Fort Reliance	2201900	164.3m	292 km	52°

Analysis

1. Maximum Temperature Series

A step change is identified in 1970.

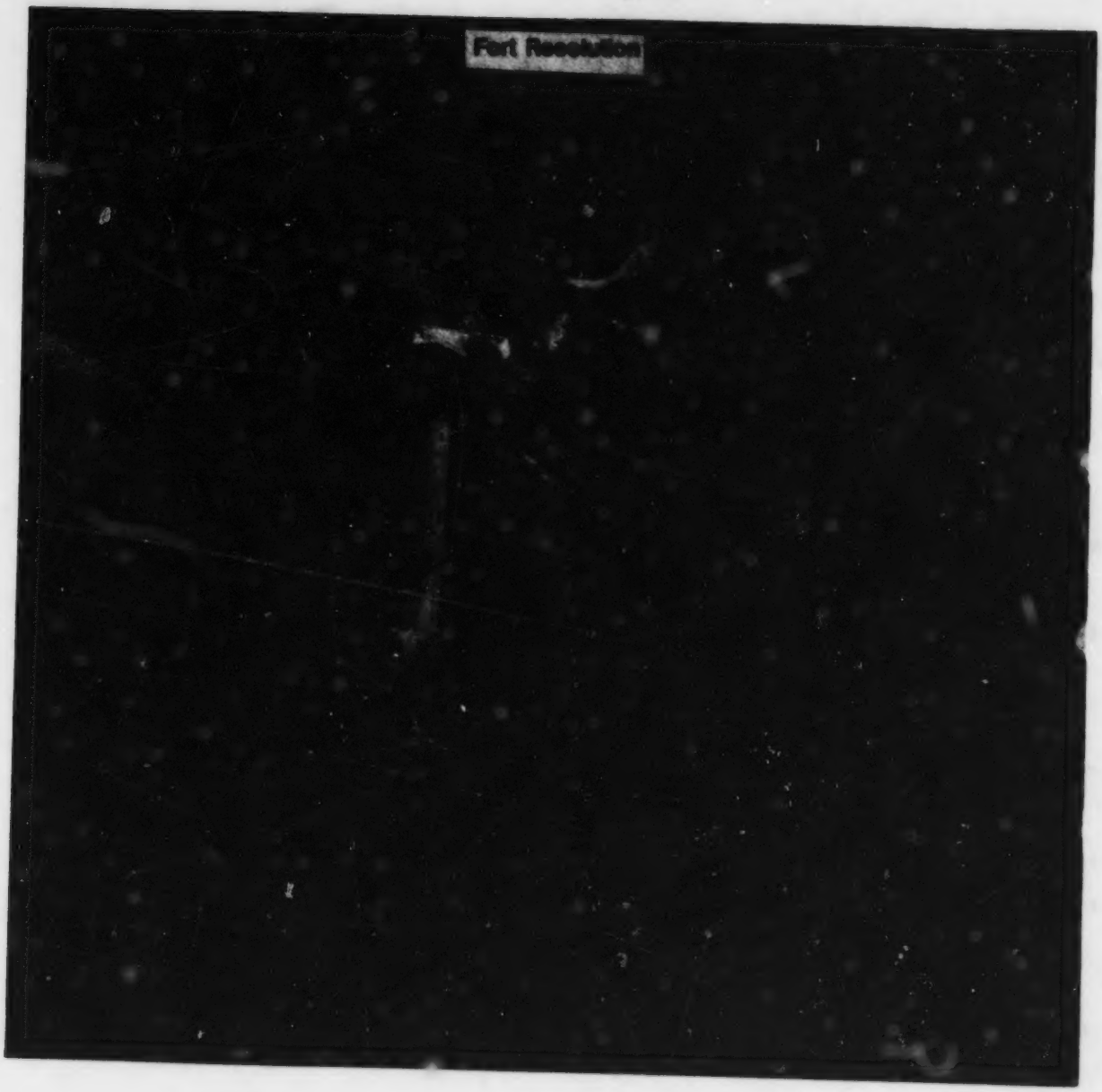
2. Minimum Temperature Series

A step change is identified in 1968, and is probably associated with the relocation of the instruments to the airport site in January, 1968.

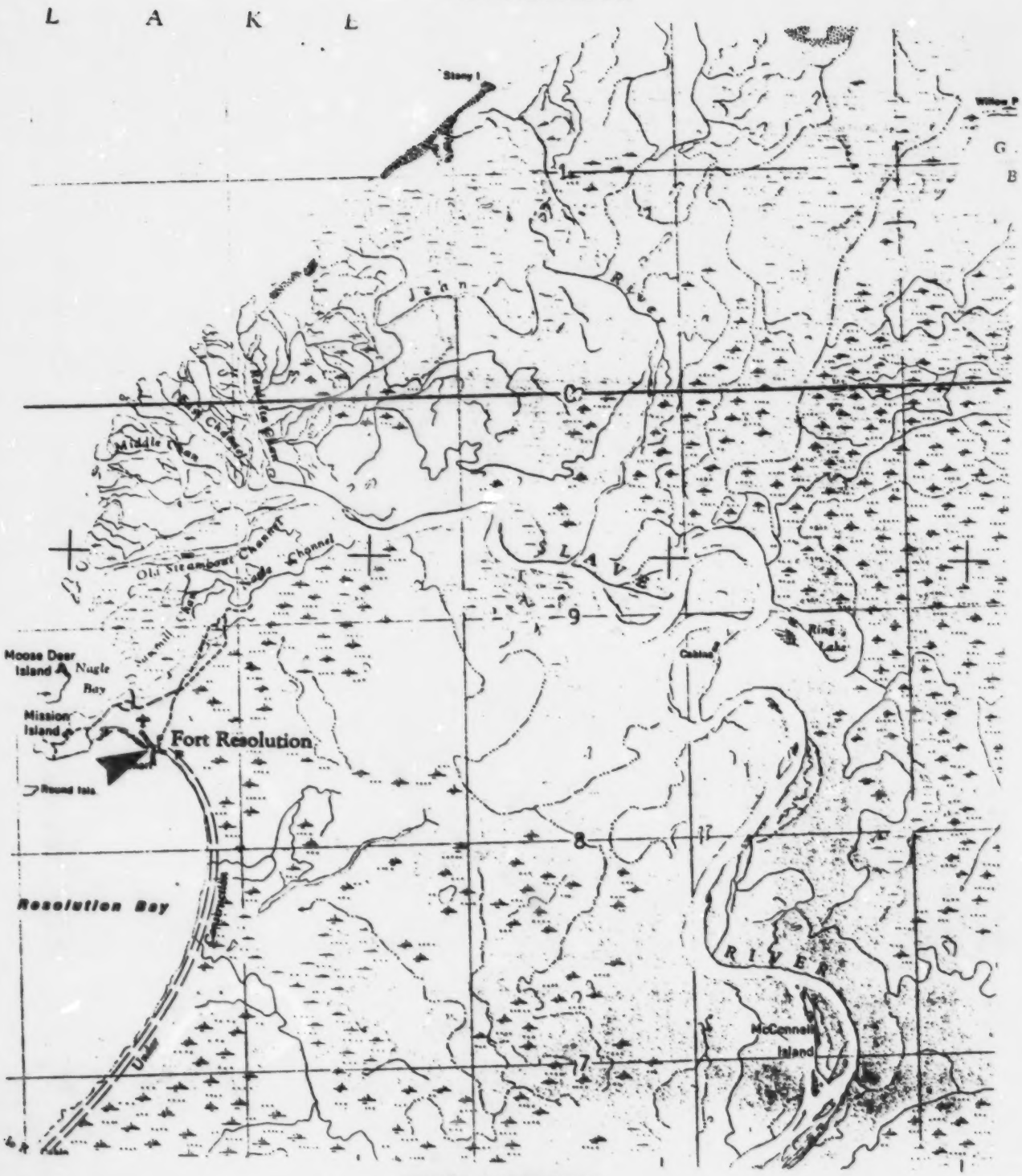
Station History

Attached.

Oct. 17,1990
LM


Fort Resolution

Fort Resolution



scale 1:250000

Station: Fort Simpson

Latitude: 61° 52'N
Elevation: 128 to 132 m

Longitude: 121° 21'W
Period of Record: 1875-1971

Comments:

(1) Synoptic observations only were recorded at this station until 1963.

(2) In 1925 the site was moved from the Anglican Mission, but its new location is uncertain. It was noted that the maximum temperature thermometer was broken due to extreme cold.

(3) A 1930 inspectors report indicates that the barometer reports were frequently wrong.

(4) In 1934 a report noted that it "is an elevated, windswept location, and it might be well not to give too much credit to snow reports."

(5) A suitable site description was not available.

Community History:

(source- Canada North Almanac, 1977)

Location: 61 degrees 52 minutes north, 121 degrees 23 minutes west; on an island at the confluence of the Mackenzie and Liard Rivers; 235 air miles southwest of Yellowknife.

Population: 1,050. **Languages Spoken:** Slavey and English.

Fort Simpson was built in about 1804 by the Northwest Company and has the distinction of being the oldest continuous trading post on the Mackenzie River. It was then known as "Fort of the Forks" and re-named after Sir George Simpson in 1821, after the amalgamation of the Northwest Company and the Hudson's Bay Company. Sir George Simpson was the first governor of the combined companies.

The St. David Anglican Mission was established in Fort Simpson in 1858 and the Sacred Heart Roman Catholic Mission came in 1894. Bishop Bompas and Father Petitot were both outstanding in the fields of exploration and as missionaries.

For about 60 years prior to 1888, York boats were used for freight and passenger transport on the Mackenzie River. Many of the traders and boat captains wintered in the settlement. In 1888, the York boats went out of use and the Hudson's Bay Company steamer "Wrigley" came into service along the Mackenzie River. Fort Simpson was a great fur-trading post, serving a very wide area. The main furs in the region have always been beaver and marten. Until 18 or 20 years ago, prices were up to $80.00 for prime beaver pelts and as high as $100.00 for high grade, very dark marten.

In 1910 the first Indian agency was opened by Reverend Gerald Cord. Later, the agency was taken over by Flynn Harris, who also became Fort Simpson's first official postmaster in 1917. The R.C.M.P. established a detachment in 1912 and, in 1916, St. Margaret's Hospital was built.

It was in Fort Simpson that the geologist Dr. Charles Camsell spent his childhood. Perhaps the most "famous" resident of Fort Simpson was Alberta Faille, a trapper until the age of 63. At that time, he set out to find gold in the Nahanni Country.

In the twentieth century, Fort Simpson's capacity for growing vegetables and raising livestock earned it the title of "Garden of the Mackenzie". However, when the winter roads came through Fort Providence, it became more practical to import from the south.

The key location of the community will ensure its continued growth in the future development of the petroleum industry in the North.

Temperature Series Homogeneity Report

Station

Fort Simpson, N.W.T. 2202100

Site Co-ordinates

61°52'N 121°21'W 128.7m

Period of Analysis / Total Number of Months in Analysis

1943-1963 / 252 months

Missing Data at Base

Maxima: 3 monthly values are missing - 1.2% of total.
Minima: 2 monthly values are missing - .8% of total.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base
1. Hay River A.	2202400	165.5m	319 km 109°
2. Yellowknife A.	2204100	205.5m	365 km 76°
3. Yellowknife Hydro	2204200	159.5m	378 km 73°
4. Wrigley A.	2204000	150.0m	185 km 325°
5. Fort Providence	2201800	159.5m	204 km 105°
6. Fort Resolution A.	2202000	164.0m	414 km 97°

Analysis

1. Maximum Temperature Series

Homogeneous.

2. Minimum Temperature Series

Homogeneous. Query values in 1955 - base appears colder than reference series would suggest.

Station History

Not yet extracted.

Oct 17, 1990
LM

Location of Gaps in 'DLY' File

2202100 Fort Simpson* 003 Daily Mean Temp (C)

96/01/01-96/02/29	01/02/27-01/08/18	02/12/31-03/04/30	03/12/15-03/12/31	04/07/01-04/12/31	05/11/04-05/11/14
05/11/29-06/03/31	06/11/27-06/12/31	07/07/30-07/09/18	07/11/01-07/11/30	08/06/29-08/07/11	08/08/30-08/09/30
09/02/01-10/07/24	13/09/01-14/07/31	21/07/01-22/08/02	25/01/21-25/07/08	25/07/19-25/08/08	25/09/30-26/01/05
26/01/28-26/06/30	27/02/01-27/02/28	27/05/01-27/05/31	28/07/01-28/07/31	28/09/23-28/10/04	29/11/01-30/01/06
34/05/01-34/05/31	35/05/01-35/05/31	36/06/11-36/06/19	44/09/28-44/10/06		

Period of Record *** 1895/11-1963/10 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	54	24	7	2	1				2		1	1	1				1				1							21

2202100 Fort Simpson* 012 Total Precipitation (mm)

96/01/01-96/02/29	97/06/01-97/08/31	03/01/01-03/04/30	04/07/01-05/01/31	05/03/01-05/03/31	05/05/01-05/07/31
05/11/01-05/11/30	06/03/01-06/03/31	06/12/01-06/12/31	07/08/01-07/08/31	07/11/01-07/11/30	08/07/01-08/07/11
08/09/01-08/09/30	09/02/01-09/02/28	09/06/05-09/06/12	09/07/18-09/09/11	09/12/01-09/12/31	11/07/01-11/07/31
13/07/01-13/07/31	13/11/01-13/12/31	14/02/01-14/03/31	20/01/01-20/01/31	21/07/01-22/07/31	25/07/19-25/07/31
25/10/01-25/12/31	26/04/30-26/06/30	28/02/01-28/02/29	28/09/23-28/09/30	34/05/01-34/05/31	35/05/01-35/05/31

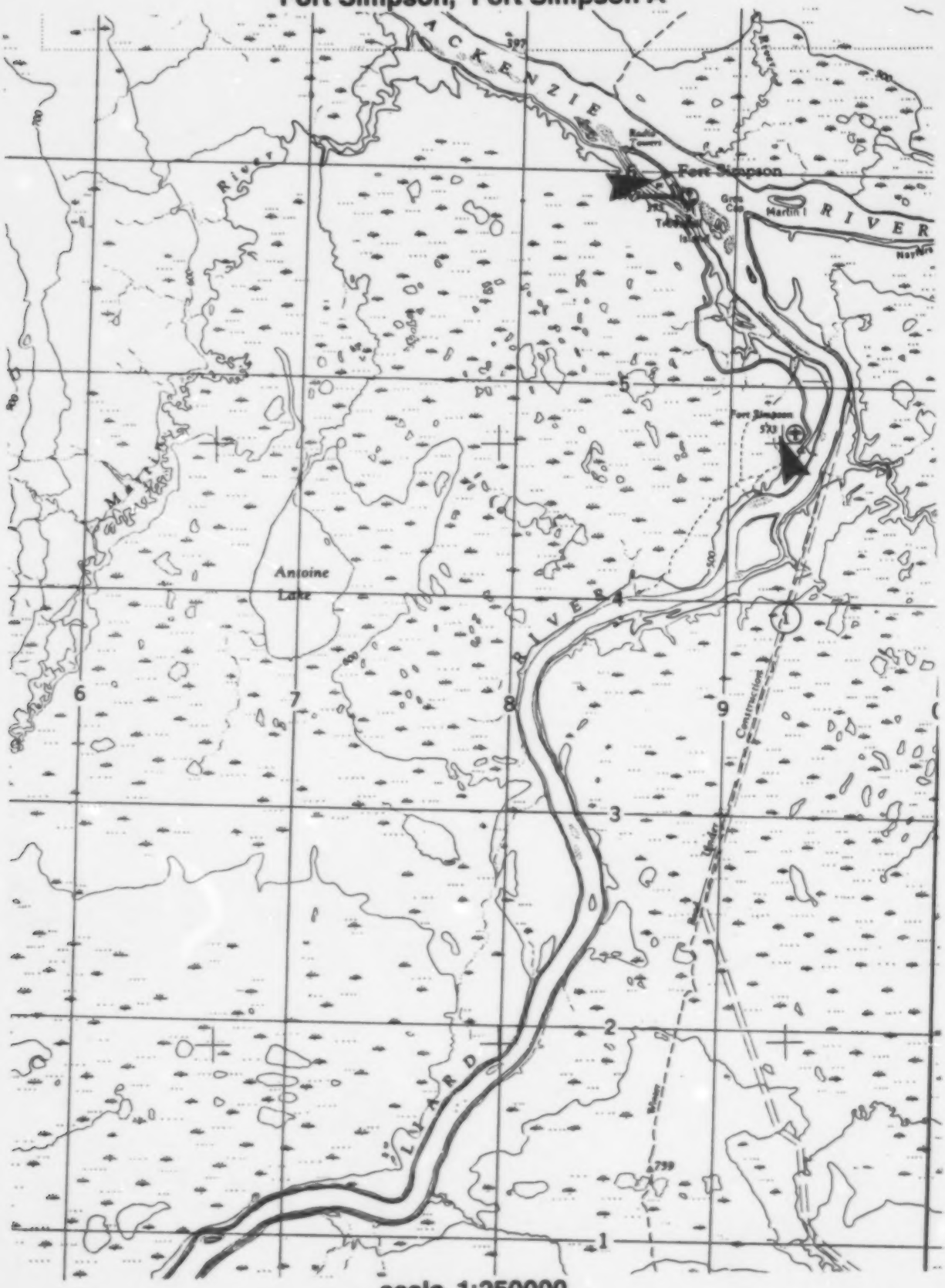
Period of Record *** 1895/11-1963/10 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	3							2			1		1															26

* gaps identified by dates are only those longer than 7 days

Fort Simpson

Fort Simpson, Fort Simpson A



scale 1:250000

Station: Fort Simpson A

Latitude: 61° 45'N
Elevation: 174m, 169m after 1963

Longitude: 121° 14'W
Period of Record: 1943-1946
1963-current

Comments:

(1) Generally, this station appears to be very good.

(2) Freeze-up and break-up of the Mackenzie and Liard Rivers is observed.

(3) A 5-point snow survey 1/4 mile southeast of the airport was run between 1969 and 1978.

(4) The following site description is taken from inspection reports written in May 1972.

> "The station is located on the bank of the Liard River which curves around the airport in a southwest to northeast direction. At its closest point the river is 1 mile southeast of the station. The Mackenzie River is 8 miles northwest of the airport and runs in a southeast to northwest direction. The Martin hills begin 20 miles west-northwest and rise to a maximum elevation of 2317 ft MSL at 35 miles. Antoine Lake lies 15 miles westsouthwest of the airport.
>
> The land is undulating with vertical heights of 30-40 feet between hills and valleys. Muskeg is the predominant type of ground. White and black spruce cover the area. Average heights are 15-25 feet in muskeg and 50-60 feet in valleys. The valleys also have stands of poplar mixed with a few birch trees. The soil is very sandy in areas that are not covered with muskeg.
>
> The airport is located on the bank of the Liard River. The river is 150 feet below the station and at a distance of 1 mile to the southwest. Banks leading down to the river are quite steep. As the ground in this area is very flat except for the river valley, one can see that the station is located on the highest ground for a radius of 10 miles. Muskeg begins 2 miles west of the airport and 4 miles east."

It was noted that in the winter "ice fog is often formed on the airport by the snow removal equipment; this fog is limited to the airport only." But, "ice fog is thicker in the town than at the airport"

Temperature Series Homogeneity Report

Station

Fort Simpson A. N.W.T. 2202101

Site Co-ordinates

61°45'N 121°14'W 168.3m

Period of Analysis / Total Number of Months in Analysis

1964-1988 / 288 months

Missing Data at Base

Maxima: no missing data.
Minima: no missing data.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base
1. Hay River A.	2202400	165.5m	309 km 107°
2. Wrigley A.	2204000	150.0m	199 km 326°
3. Yellowknife A.	2204100	205.5m	362 km 74°
4. Yellowknife Hydro	2204200	159.5m	377 km 71°
5. Hay R. Paradise Gdns.	2202405	213.4m	306 km 111°
6. Fort Resolution A.	2202000	164.0m	406 km 96°

Analysis

1. Maximum Temperature Series

Homogeneous.

2. Minimum Temperature Series

Homogeneous.

Station History

Not yet extracted.

Oct. 15, 1990
LM

Location of Gaps in 'DLY' File

2202101 Fort Simpson A 003 Daily Mean Temp (C)

79/10/23-79/10/29 79/11/02-79/11/05

Period of Record *** 1963/11-1988/12 ***

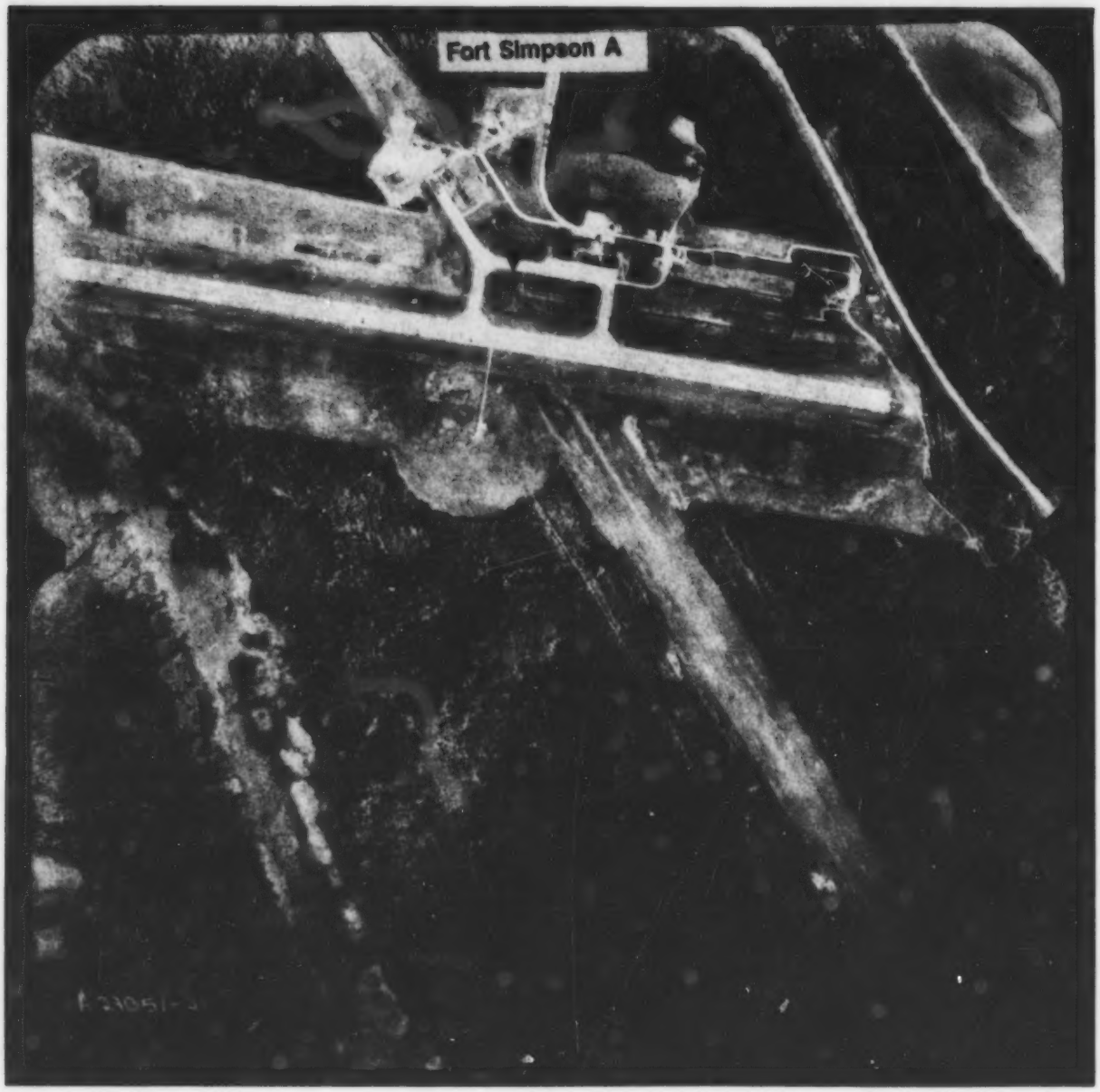
Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
					1			1																				

2202101 Fort Simpson A 012 Total Precipitation (mm)

79/10/22-79/10/29 79/11/01-79/11/05 79/11/30-79/11/30

Period of Record *** 1963/11-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	1				1			1																				


Fort Simpson A

Station: Fort Smith A

Latitude: 60° 01'N
Elevation: 203 m

Longitude: 111° 57'W
Period of Record: 1943-present

Comments:

(1) A 10-point snow survey has existed from 1944 to the present. In 1968 it was moved to the upper air station.

(2) A fire in Jan., 1948 resulted in a temporary shutdown of the upper air program. Another fire in March of 1949 disrupted the observing program again.

(3) There appear to have been at least two small station moves, one in 1969, the others unknown. The total distance moved is probably less than 200 m. The older stations seem to have been south and/or east of the present site.

(4) An observing site at Fort Smith (2202196) 60° 00'N and 111° 56'W existed from 1913 until 1929, and at Fort Smith (2202198) 60° 00'N and 111° 52'W from 1928 until 1946.

(5) Overall the observation program appears to be fair to good.

(6) The following site description was taken from a May, 1972 inspectors report.

> "The station is located at the airport, on the south bank of the Slave River. The town of Fort Smith is 2 miles E of the station while 2 miles west is the settlement of Bell Rock.
>
> Heavy stands of timber and marshland cover the area which is mostly very flat...Fort Smith is the centre of virgin forests. Fort Smith provides the only access to Wood Buffalo National Park, a region of completely unspoiled wilderness. This is the only area in the world where the buffalo can still be hunted.
>
> Within a radius of 2 miles from the station, the land is generally very flat except for the Slave River which is 135 ft. below the level of the station. The river itself is 1/2 mile form the upper air station and varies in width from 1/2 mile to 2 miles. The general area is covered by a closed forest consisting of coniferous and deciduous trees. The approximate height is between 70 and 80 feet."

It was also noted in this report that:

"during a very dry hot summer, and at the peak of the forest fire season there is usually a great deal of very thick smoke aloft over the area."

Community History:
(source- Canada North Almanac, 1977)

Location: 60 degrees 00 minutes north, 111 degrees 53 minutes west; on the west bank of the Slave River at the Alberta/N.W.T. border; 200 air miles southeast of Yellowknife.

Population: 2,810. **Languages Spoken:** English, Chipewyan and Cree.

History: Fort Smith was of considerable importance in the past as a fur-trading centre. The portage site of the "Rapids of the Drowned" was noted by traders of the Hudson's Bay Company as early as 1715. It was not until 1874 though, that a post was established in the immediate area. The post was named to honour Donald Alexander Smith, later Lord Strathcona, a Hudson's Bay Governor, a member of the first Council of the N.W.T. and a builder of the C.P.R.

In 1876 the Roman Catholic Mission, which had been established at Salt River in the 1850's, was transferred to Fort Smith. In 1911 the Mission broke land on its nearby St. Bruno farm to supply produce, meat and milk to the community until 1928. The Mission sawmill turned out lumber for the first hospital, built in 1912, and in 1918 for the first school. A Federal Government administration building was constructed in 1921 and in the same year the first Court of Justice in the Mackenzie District convened in Fort Smith. Wood Buffalo National Park, south and west of Fort Smith, was established in 1922.

An airport was built in Fort Smith in 1928 and the first air mail arrived there shortly afterwards. Before that, the mail had been delivered by dog-team. In 1934, gold was discovered in Yellowknife and many prospectors came rushing through Fort Smith. In the same year, an Anglican Mission house was built and a church added in 1939.

Because Fort Smith was such an important northern centre for transportation and administration, it usually felt the effects of booms and lags in the economical cycle of the whole north. 1942 was a "boom" year when the U.S.Army arrived to begin work on the "Canol" project and, for the first time, winter roads linked Hay River and Fort Smith with Edmonton. In 1945, the re-interest in gold at Yellowknife led to another boom.

In the decade following 1945, Fort Smith's population quintupled, mainly reflecting an increase in administrative facilities. Fort Smith was the administrative centre of the Mackenzie district until 1967 when the Government of the N.W.T. was established in Yellowknife.

Today, the prosperity of the town of Fort Smith depends on such activities as trapping, tourism and especially the government (it is still the administrative centre of the Fort Smith Region), as well as being the site of a large vocational centre.

Location of Gaps in 'DLY' File

2202200 Fort Smith A 003 Daily Mean Temp (C)

43/12/01-44/01/31 44/11/01-44/11/30 45/05/15-45/05/15 46/01/07-46/01/13 46/12/14-46/12/14 47/02/01-47/02/02
47/12/01-48/01/08 79/10/18-79/11/16

Period of Record *** 1943/09-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	2	1					1																					4

2202200 Fort Smith A 012 Total Precipitation (mm)

43/11/01-44/01/31 44/04/01-44/04/30 44/11/21-44/11/30 47/12/01-48/01/08 79/10/17-79/11/16

Period of Record *** 1943/09-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
										1																		4

Temperature Series Homogeneity Report

Station

Fort Smith A., N.W.T. 2202200

Site Co-ordinates

60°01'N 111°57'W 203.0m

Period of Analysis / Total Number of Months in Analysis

1944-1988 / 540 months

Missing Data at Base

Maxima: 3 monthly values are missing - .6% of total.
Minima: 2 monthly values are missing - .4% of total.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base	
1. Hay River A.	2202400	165.5m	229 km	295°
2. Yellowknife A.	2204100	205.5m	304 km	335°
3. Yellowknife Hydro	2204200	159.5m	320 km	338°
4. Fort Resolution A.	2202000	164.0m	161 km	325°

Analysis

1. Maximum Temperature Series

Homogeneous.

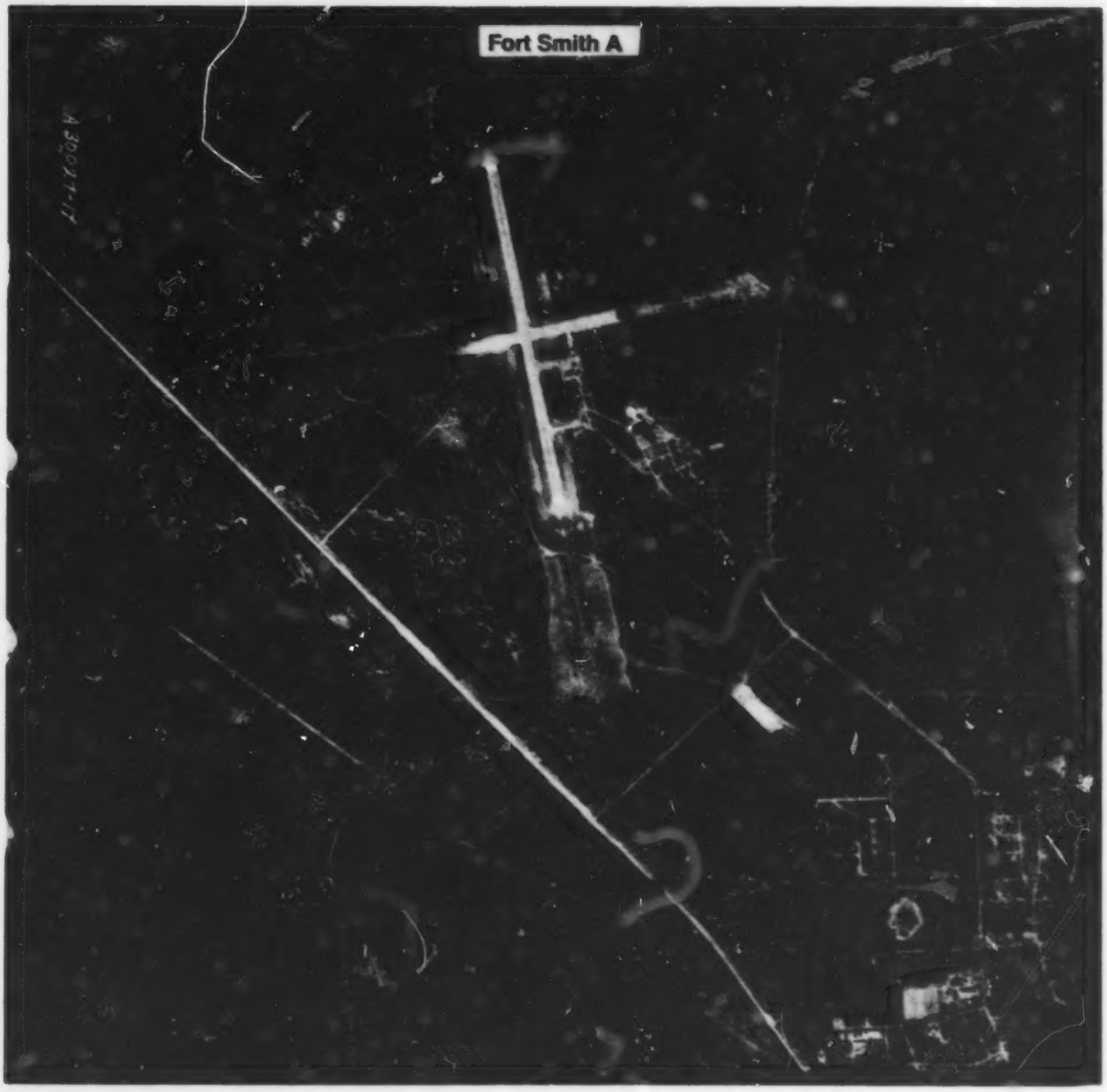
2. Minimum Temperature Series

Uncertain. There appears to be a trend (base values grow warmer with respect to auxiliary values) in the period from the early 1950's to 1988.

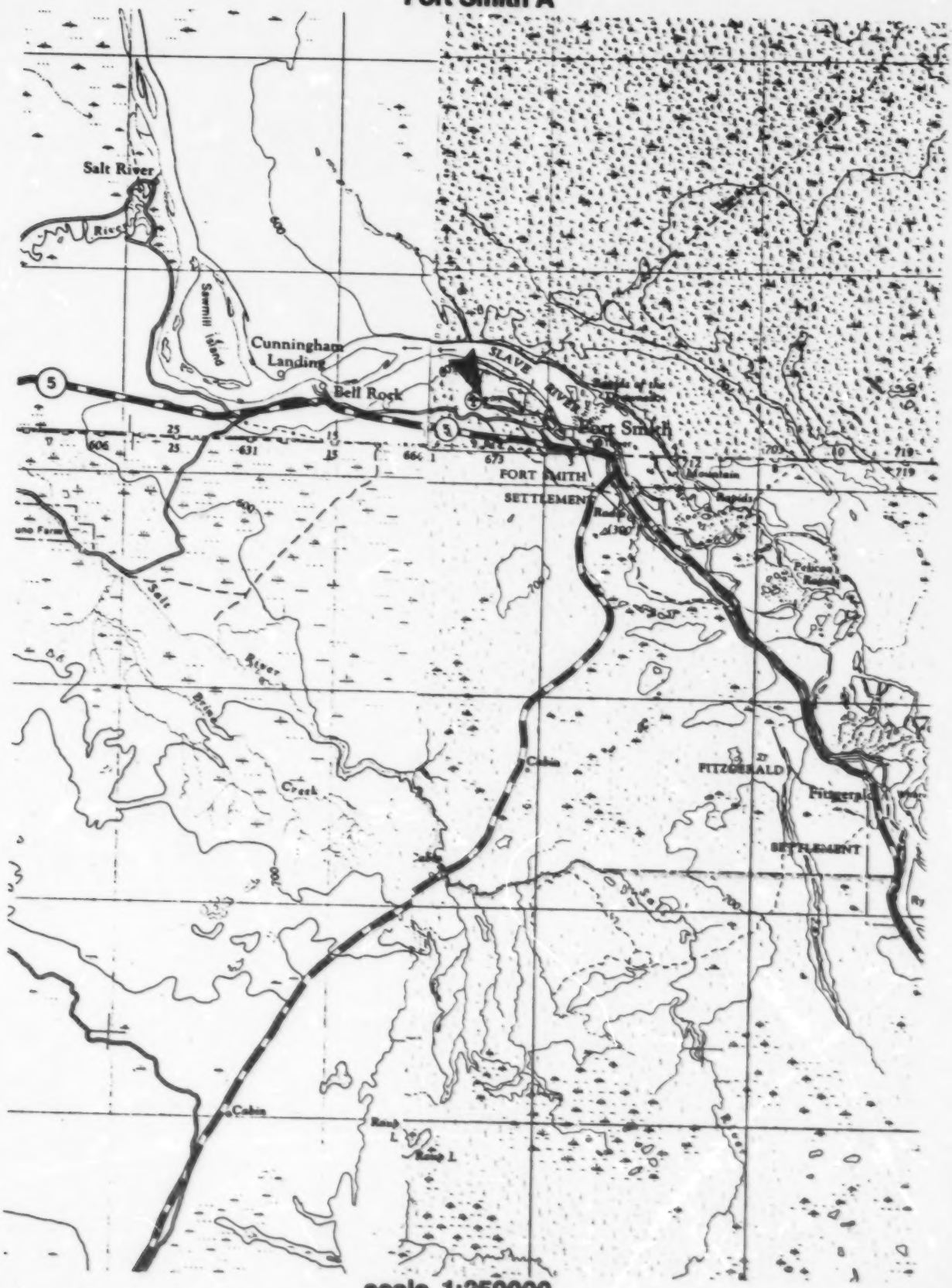
Station History

Not yet extracted.

Oct. 15, 1990
LM


Fort Smith A

Fort Smith A



scale 1:250000

Station: Hay River A

Latitude: 60° 50'N
Elevation: 164 m

Longitude: 115° 47'W
Period of Record: 1964-present

Comments:

(1) This station was preceded by Hay River (1943-1964) which had the same station number but was located at 60° 52' N, 115° 44' W. From 1893 to 1943 the Hay River station (#2202398) was located at 60° 51'N, 115° 57'W.

(2) The first inspection report (1947) indicates that the anemometer was located at a height of 19 ft. It was moved to a higher more standard height that summer. There may have been a small site move that year.

(3) A 1956 note indicated that snow measurements were being done incorrectly, but were corrected at that time.

(4) In 1964 the site moved from the town to the airport. In 1970 the site moved again, 1600 ft. westsouthwest.

(5) An inspection report from 1988 noted that the precipitation gauge was influenced by buildings within 50 m. As well, snow depth was hard to measure due to wind eddy effects and traffic in the area.

(6) A 1962 report mentioned that the instruments were located on top of an office building, and that the area was surrounded by trees and buildings, although not nearer than 200 ft. Pilots indicated that winds were not representative of those at the airstrip 1 mile west.

(7) Break-up and freeze-up of the Hay River are observed.

(8) The following site description is taken from a May 1972 report.

> "The station is located on Vale Island. The land is generally marsh or swampy... Trees covering the area are poplar, spruce, willow and scattered birch. North of the station is Great Slave Lake... five or six miles east is the sandy river. To the south the Hay River approaches, winding in a northeasterly direction."
>
> "Vale Island is approximately 3 miles long by 2 1/2 miles wide. The station is located in the south part of the island. It is surrounded by water... Deciduous trees are located in all directions with heights of 8 to 18 ft....some

standing as high as 35 ft.... The town garbage is about 5 miles south of the station. Smoke from the burning does not affect the station"

"Great Slave Lake has a great effect on the weather all year round. High temperatures in the summer of 70 to 80°F change to 45 to 60°F in a matter of a few minutes when the wind direction changes to the north. Blowing snow has been reported over the lake by pilots while only slight drifting snow occurs at the station... due to the protection this site receives from the dense forest. Ice fog occurs over the town site thicker than at the airport"

Community History:
(source- Canada North Almanac, 1977)

Location: 60 degrees 51 minutes north, 115 degrees 44 minutes west; on the south shore of Great Slave Lake at the mouth of the Hay River; 125 air miles southwest of Yellowknife.

Population: 4018. **Languages Spoken:** English and Slavey.

History: The original site of Hay River is where the Indian village now stands. Hay River appeared on the maps as early as 1854 although the first permanent building was not constructed until 1868. This was a Hudson's Bay Company fur-trading post, built on the east bank of the river channel. In 1869, Father Bascon arrived and established a Roman Catholic Mission. This Mission operated until 1878 when it was abandoned. An Anglican Mission was established in 1839 to serve the Slavey Indians of the area and the R.C.M.P. opened a detachment post in 1925. Hay River remained essentially a small trading post community until about 1940.

In 1949, the Mackenzie Highway was completed, connecting Grimshaw (Alberta) with Hay River. A new townsite was laid out on the west bank of the channel, on Vale Island, although settlement began on the Island in 1939. A smaller settlement was put at the mouth of the west channel, the site of a fish-packing plant and fishermen's homes. With the opening of the Mackenzie Highway and the completion of the Great Slave Lake Railway in 1964, Hay River grew in importance.
Today, Hay River is a modern community whose economy is based on transportation and communication, commercial fishing and various service industries. One major activity involves it in being the transfer point from highway and rail to barge for the Mackenzie and Western Arctic communities. This responsibility can be expected to increase dramatically with further petro-chemical developments.

Location of Gaps in 'DLY' File

2202400 Hay River A 003 Daily Mean Temp (C)

43/06/01-43/10/31 44/11/01-44/11/30 45/03/01-45/03/05 45/05/13-45/05/31 46/03/06-46/03/31 55/02/14-55/02/14
63/05/01-63/05/07 73/12/25-73/12/25 79/10/20-79/10/21 79/10/27-79/10/28 82/01/30-82/01/30

Period of Record *** 1943/04-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	3	2			1		1												1							1		2

2202400 Hay River A 012 Total Precipitation (mm)

43/06/01-43/10/31 44/11/01-44/11/30 63/05/01-63/05/07 79/10/19-79/10/29 82/01/30-82/01/30

Period of Record *** 1943/04-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	1						1				1																	2

Temperature Series Homogeneity Report

Station

Hay River A., N.W.T. 2202400

Site Co-ordinates

60°50'N 115°47'W 165.[illegible]m

Period of Analysis / Total Number of Months in Analysis

1944-1988 / 540 months

Missing Data at Base

Maxima: 4 monthly values are missing - .7% of total.
Minima: 2 monthly values are missing - .4% of total.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base
1. Fort Smith A.	2202200	203.0m	229 km 112°
2. Yellowknife A.	2204100	205.5m	195 km 21°
3. Yellowknife Hydro	2204200	159.5m	220 km 21°
4. Fort Resolution A.	2202000	164.0m	120 km 70°

Analysis

1. Maximum Temperature Series

Homogeneous. Query values in 1983 and 1984, as the values appear colder than the reference series would suggest.

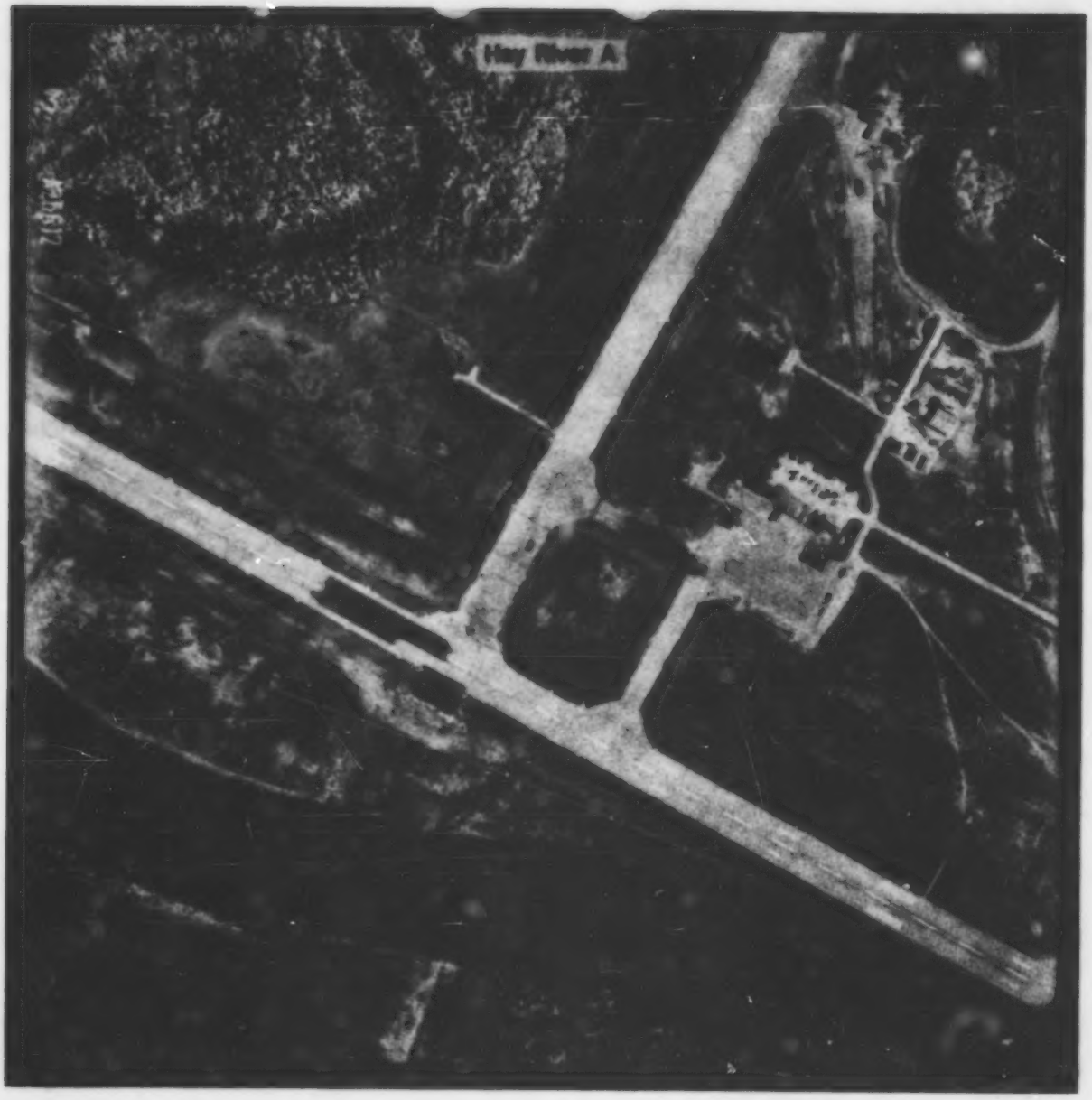
2. Minimum Temperature Series

Homogeneous.

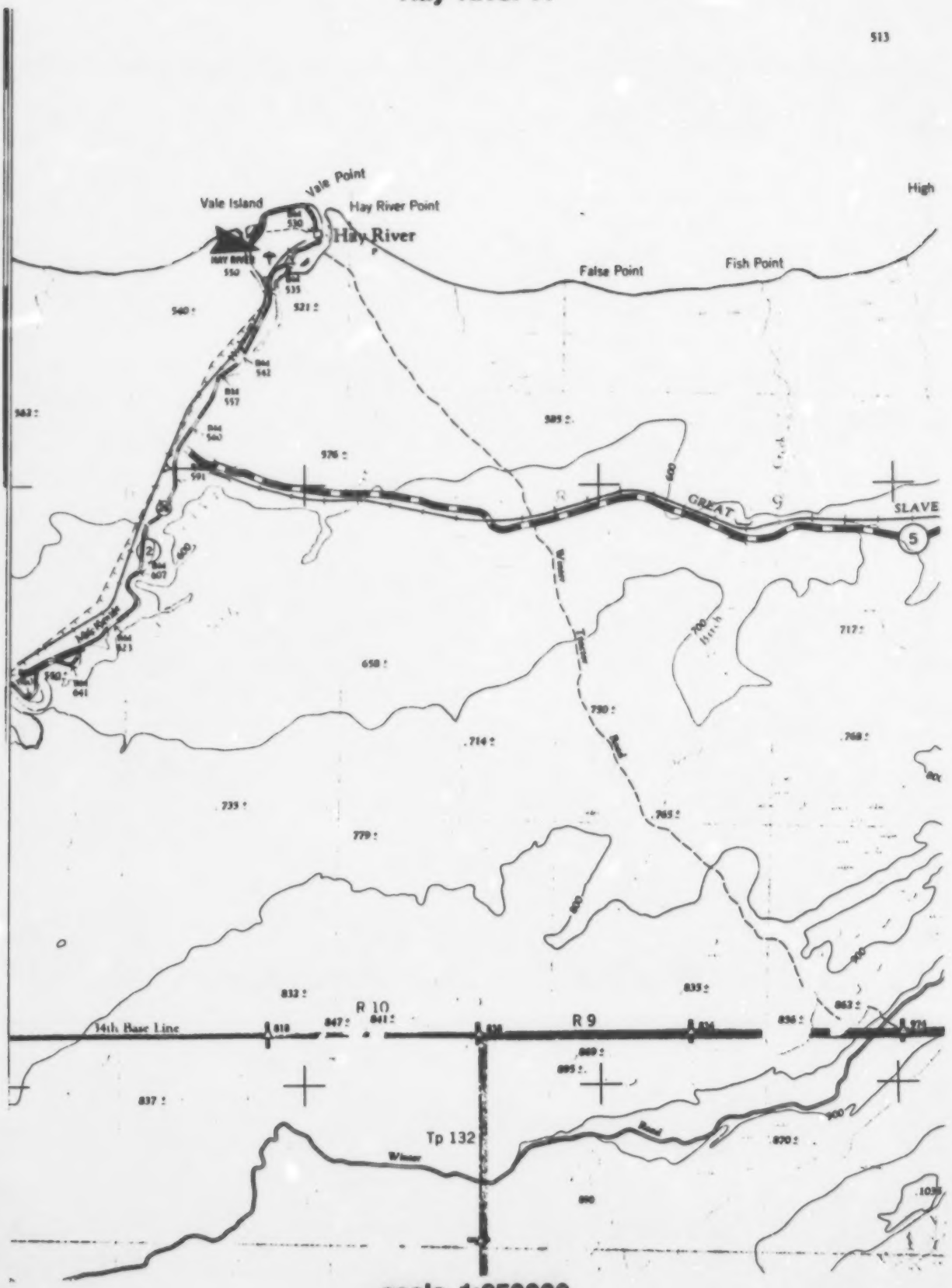
Station History

Not yet extracted.

Oct 15, 1990
LM


Hwy River A

Hay River A



scale 1:250000

Station: Inuvik A

Latitude: 68° 18'N
Elevation: 59 m

Longitude: 133° 29'W
Period of Record: 1958-present

Comments:

(1) Overall this is rated as a very good station.

(2) Ice measurements on the Mackenzie River are made about 10 miles north, just off the town loading dock. Freeze-up and break-up are observed.

(3) A 10-point snow survey (1000 ft. northwest of the instrument area) was done for the years 1967, 1968, 1974, 1975 and 1977.

(4) Two small station moves occurred, one in Sept. 1974 and another in Aug. 1984.

(5) "Inuvik airport is considered to be in a sheltered area as far as winds are concerned" (1972 report).

(5) No good photos exist in the station file. However, the following site description is taken from a May 1972 report.

> "Inuvik is located on the east side of the east channel of the Mackenzie River Delta, some 60 miles south of the Beaufort Sea. The delta extends about 150 miles from its head, at Point Separation, north to the Arctic Ocean. At its widest, it is some 100 miles across.
>
> The delta is a vast myriad of lakes, swamps, river channels and land. Across the delta to the west of Inuvik, approximately 50 miles distant, are the bare Richardson Mountains, rising to 3800 ft. above sea level. To the north-northwest stretch the Caribou Hills, with elevations of nearly 600 ft. that begin 25 miles north-northwest of tre airport. This line of hills extends nearly parallel to the East Channel for nearly 30 miles downstream. The Caribou Hills break into tundra-covered barren lands to the north and sparsely wooded lichen forest to the south. Approximately 18 miles northeast of the airport lies Sitidgi Lake. This lake is 19 miles long and 9 miles across. Beginning 28 miles north-northeast of Inuvik airport lies a vast series of lakes interconnected and stretching northeastward to the Arctic coast... In general there is far more non-forested than forested land. Inuvik lies

within the northernmost reaches of the tree line and has a combined arctic and sub-arctic environment.

Inuvik airport is situated approximately 7 miles southeast of the townsite. The air terminal building is located on a flat plateau on the north shore and overlooks the 3 mile long Dolomite Lake. The general area between the townsite and airport on the whole is of a slightly rolling wooded plateau which parallels the east channel of the Mackenzie River. It lies well above flood level and below a ridge of the Caribou Hills.

A series of rocky hills overlooks the airport from the southeast... the peak heights of these rocky hills are 450 to 500 ft. above sea level... of average distance of 3 miles. White birch are prevalent around the airport and northwestward to the town site."

Community History:

(source- Canada North Almanac, 1977)

Location: 68 degrees 21 minutes north, 133 degrees 43 minutes west; on the east channel Mackenzie Delta; 675 air miles northwest of Yellowknife; 1,200 air miles north of Edmonton.

Population: 3100. **Languages Spoken:** Eskimo, Loucheux and English.

History: Inuvik means "place of man" in Inuit. Although there was hunting and fishing in the region of Inuvik and Alexander Mackenzie paddled by the present site as early as 1789 on his journey to the Arctic Ocean, the site of Inuvik was seldom visited until 1954. In that year, it was decided to relocate and enlarge the school, hospital, airport and administration facilities of Aklavik. The site was selected mainly because of the large, level area, well above flood levels, the presence of gravel for construction, the location on a navigable stream and the excellent opportunities for a modern airport and landing strip. Construction of Inuvik started in 1955 and lasted until 1961. The first buildings were erected in 1956 when a garage and shop were set up to service construction vehicles. In that same year, two Missions and two stores were moved to Inuvik from Aklavik and began operations. In September 1956 a temporary school was reopened.

In 1957, a nursing station was opened, which served the community until the hospital was completed. The R.C.M.P. set up a detachment office in Inuvik in 1957. In 1958, a diesel electric system was set up, the post office opened in temporary quarters and the first bank north of the Arctic Circle opened its doors.

The government administration offices were completed in 1959 and the R.C.M.P. subdivision headquarters and radio station CHAK were moved to Inuvik from Aklavik. The 100-bed hospital and nursing station was completed in 1961. On July 21, 1961, Inuvik was officially opened.

Today, Inuvik is in the process of gearing itself even higher to cope with an expected large influx of people to work on the various petro-chemical activities centred in the Mackenzie Delta.

Location of Gaps in 'DLY' File

2202570 Inuvik A 003 Daily Mean Temp (C)

58/02/05-58/02/08	59/10/04-59/10/04	59/10/11-59/10/11	59/10/25-59/10/25	59/11/01-59/11/01	59/11/14-59/11/15
59/11/20-59/11/22	59/11/27-59/11/28	59/12/06-59/12/06	59/12/12-59/12/12	59/12/20-59/12/20	59/12/25-59/12/25
59/12/27-59/12/27	60/01/02-60/01/03	60/01/10-60/01/10	60/01/16-60/01/17	60/04/02-60/04/03	60/07/11-60/07/11
60/09/12-60/09/12	60/10/29-60/10/29				

Period of Record *** 1957/03-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	13	5	1	1																								

2202570 Inuvik A 012 Total Precipitation (mm)

57/06/02-57/06/02	57/06/04-57/06/06	57/06/08-57/06/18	57/06/20-57/06/22	57/06/24-57/07/07	57/07/09-57/07/09
57/07/11-57/07/11	57/07/13-57/07/14	57/07/16-57/07/19	57/07/22-57/07/25	57/07/27-57/08/05	57/08/08-57/08/11
57/08/13-57/08/18	57/08/20-57/08/20	57/08/22-57/08/24	57/08/26-57/08/28	57/08/30-57/08/30	58/10/01-58/10/31

Period of Record *** 1957/03-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	5	1	4	3		1				1	1			1														1

Temperature Series Homogeneity Report

Station

Inuvik, N.W.T. 2202570

Site Co-ordinates

68°18'N 133°29'W 68.0m

Period of Analysis / Total Number of Months in Analysis

1957-1988 / 384 months

Missing Data at Base

Maxima: 3 monthly values are missing - .8% of total.
Minima: 2 monthly values are missing - .5% of total.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base	
1. Tuktoyaktuk	2203910	18.3m	130 km	8°
2. Shingle Point A.	2100950	55.5m	168 km	297°
3. Nicholson Peninsula	2202750	97.6m	255 km	42°
4. Fort Good Hope A.	2201400	51.8m	308 km	135°

Analysis

1. Maximum Temperature Series

Homogeneous.

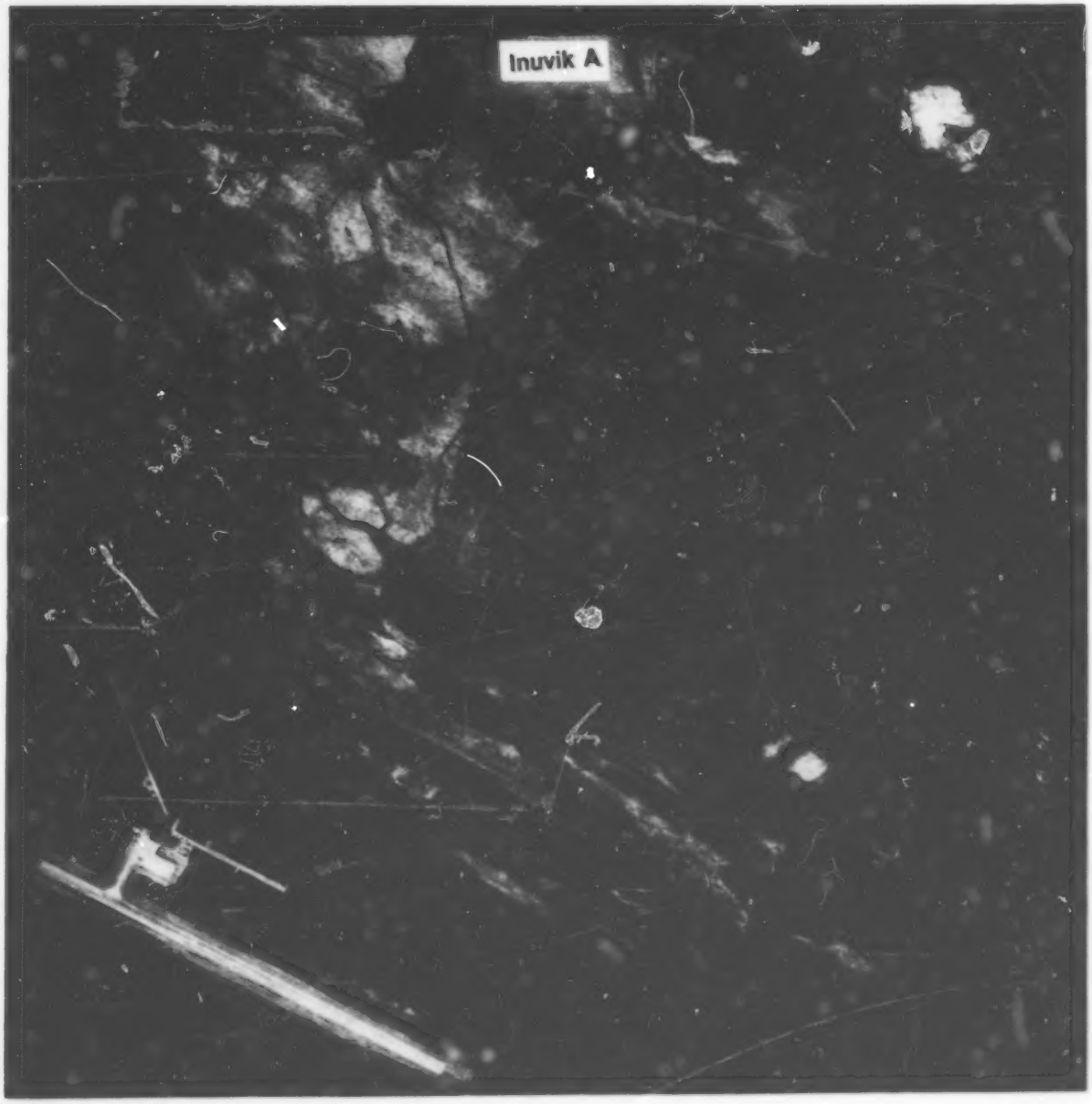
2. Minimum Temperature Series

Not homogeneous in the period 1957 to 1969.

Station History

Attached.

Oct. 15, 1990
LM


Inuvik A

Inuvik A

scale 1:250000

Station: Norman Wells A

Latitude: 65° 17'N
Longitude: 126° 48'W
Elevation: 67 m
Period of Record: 1943-present

Comments:

(1) A 10-point snow course was run from 1964 to 1985. The course was located 1/4 mile southwest of the airport. Measurements at the snow course and at the airport could be quite different.

(2) The site moved a number of times over the years, from 65° 17'N and 126° 50'W to the current location. In Dec. of 1986 the anemometer tower was relocated.

(3) Freeze-up and break-up of the Mackenzie River as well as ice thickness is observed.

(4) Temperature data is suspect in Oct. and Nov. of 1983.

(5) In general this appears to be a good station; the quality is suspect however up until 1954.

(6) The following site description is taken from a 1981 inspection report.

> "The Norman Wells instrument site is located 15 m west and 50 m south of the airport terminal building (ATB) and airstrip. The area immediately surrounding the site is covered with wild grasses and low bush. The ATB is situated at the south end of the town approximately 1/2 mile from the eastern shore of the Mackenzie River.
>
> To the east of Norman Wells, in a north to south line approximately 20 km distant, lies the Norman Range of mountains that rise to 1,035 m. To the west across the river at a distance of 50 km is the Carcajou Range of the Mackenzie Mountains that rise to 2,040 m. The Mackenzie River flows southeast to northwest at the west edge of the town and is approximately 4 km wide at this point. The town of Norman Wells covers about 10 square km. and consists of low 1 and 2 story buildings interspersed with trees and open field areas. The Mackenzie Valley in the Norman Wells area is covered with mainly coniferous trees of moderate (7m) growth and density; the soil composition of the valley consists of sand, shale, rock and muskeg."

Community History:
(source- Canada North Almanac, 1977)

Location: 65 degrees 17 minutes north, 126 degrees 51 minutes west; on the east bank of the Mackenzie River; 50 air miles northwest of Fort Norman; 425 air miles northwest of Yellowknife.

Population: 353. **Languages Spoken:** English.

History: Norman Wells is unique in a number of ways. It originated not as a trading centre but, rather, as an oil producer. In the summer of 1789, Alexander Mackenzie noted, at the Lower Rampart of the river that now bears his name, that there were "pieces of petroleum which bear a resemblance to yellow wax" in the vicinity. Oil seepages were also reported by other early explorers. J. K. Cornwall of the Northern Trading Company investigated seepages at the site of Norman Wells in 1911, and in 1914 a Mr. Bosworth caused three leases to be staked near oil seeps on the north bank of the Mackenzie River at the mouth of what became known as Bosworth Creek. These claims were acquired in 1918 by the Northwest Company, a subsidiary of Imperial Oil Limited. In 1919 Imperial Oil drilled the first well and it is now the home of the only refinery north of 60. It also served as a base for the Canol Project (a road and pipeline, built from Norman Wells to Whitehorse, Yukon).

After World War II, the Norman Wells operation was governed, as it was before the war, by the rate of expansion in the mining and related activities in the Mackenzie District. The economic base of Norman Wells is oil and related field activities which support a wage-type economy. The community also serves as a distribution centre for the general Mackenzie River region. Because of these two factors, oil activities and distribution centre, many other businesses have been established and Norman Wells is fast becoming an important and large commercial centre. Many tourists also go through Norman Wells on their way to big game hunting and fishing camps.

Location of Gaps in 'DLY' File

2202800 Norman Wells A 003 Daily Mean Temp (C)

47/09/14-47/10/05 53/01/31-53/01/31 53/12/30-53/12/31 55/02/20-55/02/20 79/08/31-79/08/31 79/10/18-79/11/15
83/09/21-83/09/21 83/09/23-83/09/23

Period of Record *** 1943/05-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	5	1																					1					1

2202800 Norman Wells A 012 Total Precipitation (mm)

79/08/31-79/08/31 79/10/18-79/11/15

Period of Record *** 1943/06-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	1																											1

Temperature Series Homogeneity Report

Station

Norman Wells A., N.W.T. 2202800

Site Co-ordinates

65°17'N 126°48'W 67.1m

Period of Analysis / Total Number of Months in Analysis

Not tested. Base isolated during period of available data.

Missing Data at Base

Maxima:
Minima:

Reference Series

	Name	Number	Elev.	Dist./ Dir. from Base
1.				
2.				
3.				
4.				
5.				
6.				

Analysis

1. Maximum Temperature Series

2. Minimum Temperature Series

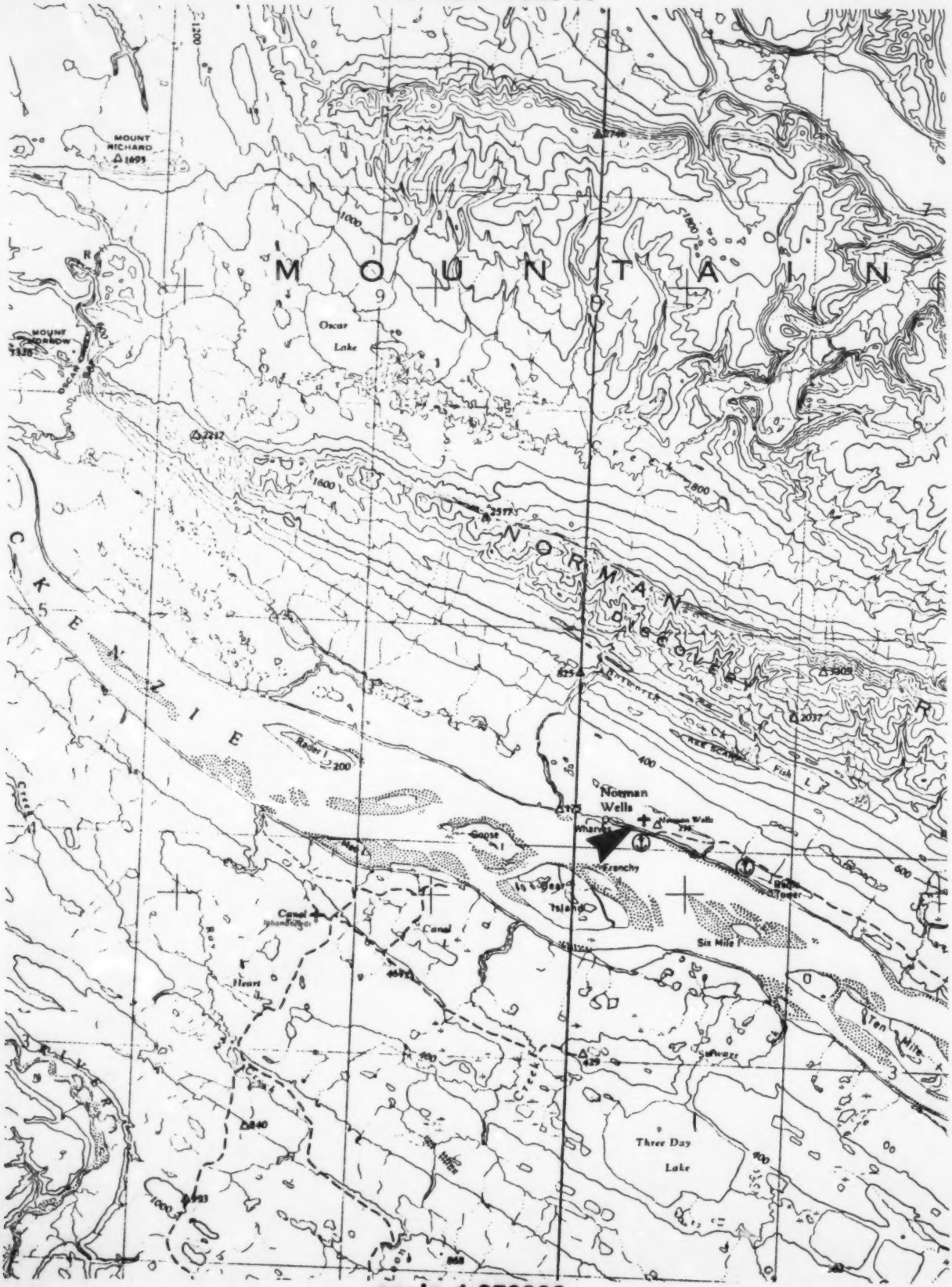
Station History

Not yet extracted.

Oct. 16,1990
LM

Norman Wells A
182
A26414

Norman Wells A



scale 1:250000

Station: Tuktoyaktuk

Latitude: 69° 27'N
Elevation: 18 m

Longitude: 133° 00'W
Period of Record: 1955-present

Comments:

(1) This station was previously located at 69° 28'N, 132° 50'W from 1948 to 1956 (station #2203900).

(2) Until 1960 the station was called TukTuk.

(3) In 1957 it was noted that the anemovane was subject to effects from a building just to the northwest. As a result the observation location was moved 200 ft. south. It was again moved in 1959 (50 ft. east).

(4) Freeze-up and break-up are observed.

(5) A 1966 report indicates no heavy drifting of snow occurs in the area.

(6) The following site description comes from a 1978 inspection report.

> "Tuktoyaktuk is situated on the southeast side of Kugmallit Bay midway up the northern side of Tuktoyaktuk Peninsula. The station is on the west side of a small peninsula which forms Tuk Harbor. The terrain is generally flat with elevations less than 100 ft. ASL. There are hundreds of small lakes in the area with larger Eskimo Lakes 15.5 miles south-southeast. The most striking feature of the terrain are the numerous pingos rising to 125-150 ft. The stevenson screen is mounted about 100 ft. north of the module train away from sources of heat or moisture. The Bendix-Friez wind detector is mounted on a 60 ft. pole 800 ft. east of the hangar at the airstrip in the free airflow."

Community History:

(source- Canada North Almanac, 1977)

Location: 69 degrees 27 minutes north, 133 degrees 02 minutes west; on the Beaufort Sea at the eastern side of the Mackenzie Delta; 85 air miles north of Inuvik; 705 air miles northwest of Yellowknife.

Population: 697. **Languages Spoken:** Eskimo and English.

History: The name Tuktoyaktuk is taken from an Eskimo legend and means "it looks like caribou". It is often referred to as "Tuktuk" or, simply "Tuk" by Northerners. The former name is Port Brabant.

The area was first explored by Dr. John Richardson of the Franklin expedition in 1826. Richardson met many Inuit living in small family groups. Between 1890 and 1910, a large number of whalers operated in the Beaufort Sea and wintered in the area of Tuk. With the end of the commercial whaling era, Herschel Island lost its importance as a harbour and Tuktoyaktuk was established as an alternative port in 1934.

The Hudson's Bay Company store was completed in 1937, the same year that the Anglican and Roman Catholic Missions were founded. The school was built in 1947 and the R.C.M.P. post set up in 1950. The construction of the DEW Line in 1955 brought wage employment to many places along the coast, including Tuk.

The present economic base is composed of fur trapping as well as wage employment on the DEW Line site and with N.T.C.L. at its transshipping operation from river to ocean vessels in the summer. Tuk is also an area which is undergoing extensive oil and gas exploration and, with the proposed Mackenzie Valley Pipeline, could undergo major changes in the near future.

Location of Gaps in 'DLY' File

2203910 Tuktoyaktuk* 003 Daily Mean Temp (C)

57/07/06-57/08/27 57/11/27-57/12/19 60/02/06-60/02/21 62/01/13-62/01/31 84/01/26-84/02/04 84/02/07-84/02/14
85/02/14-85/02/21

Period of Record *** 1957/06-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	20	17	10	6	1	2	1	2		1							1			1				1				1

2203910 Tuktoyaktuk 012 Total Precipitation (mm)

59/02/14-59/02/14 59/12/06-59/12/08 59/12/10-59/12/10 59/12/20-59/12/20 60/02/06-60/02/07 60/10/20-60/10/20
77/07/13-77/07/14

Period of Record *** 1957/06-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	4	2	1																									

* gaps identified by dates are only those longer than 7 days

Temperature Series Homogeneity Report

Station

Tuktoyaktuk, N.W.T. 2203910

Site Co-ordinates

69°27'N 132°60'W 18.3m

Period of Analysis / Total Number of Months in Analysis

1958-1988 / 372 months

Missing Data at Base

Maxima: 7 monthly values are missing - 1.9% of total.
Minima: no missing data.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base	
1. Komakuk Beach A.	2100685	13.7m	280 km	276°
2. Shingle Point A.	2100950	55.5m	176 km	254°
3. Nicholson Peninsula	2202750	97.6m	165 km	69°
4. Cape Parry A.	2200675	17.4m	329 km	72°

Analysis

1. Maximum Temperature Series

Homogeneous.

2. Minimum Temperature Series

Homogeneous.

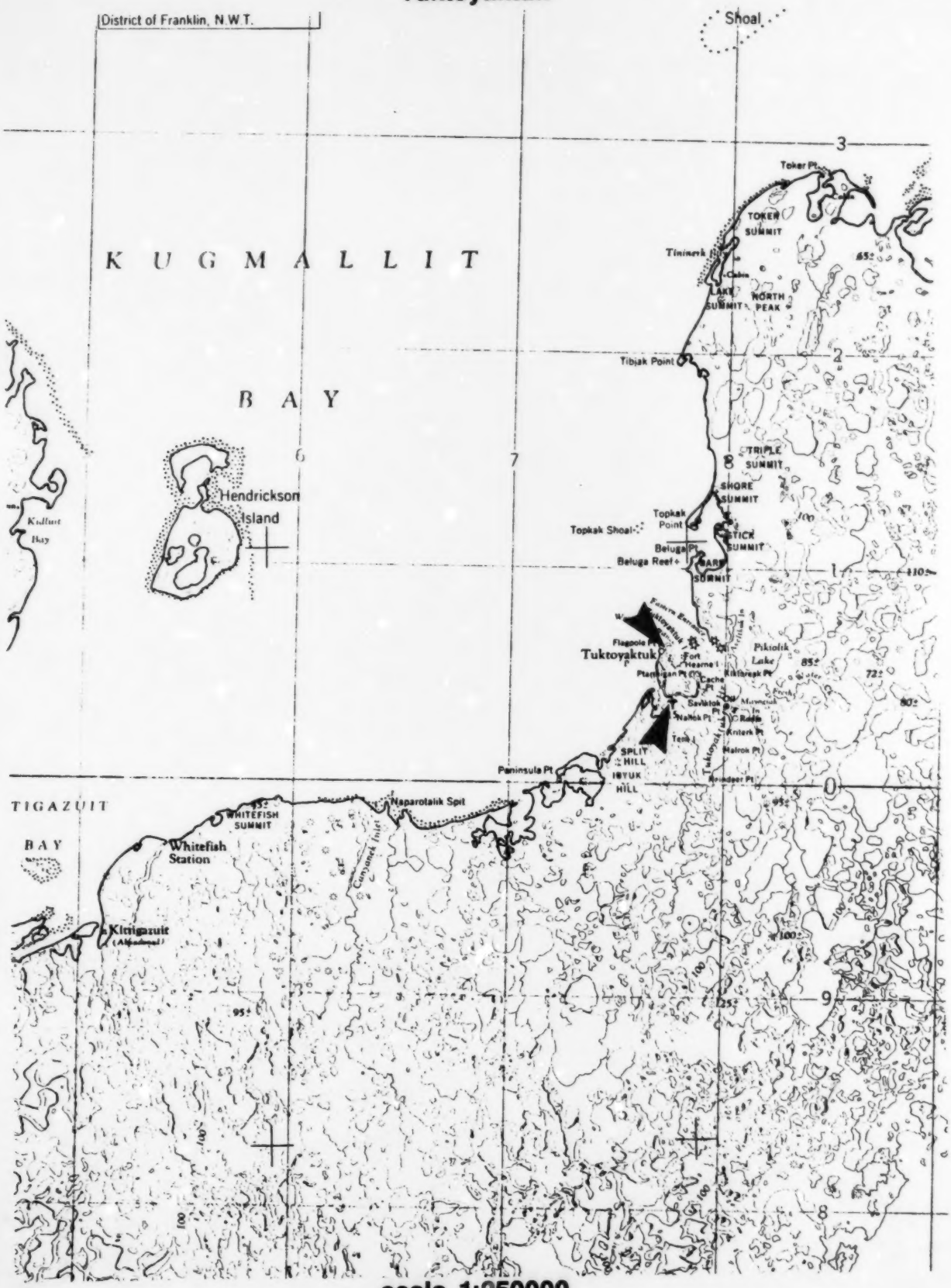
Station History

Not yet extracted.

Oct. 15,1990
LM

Tuktoyaktuk
A26732 106

Tuktoyaktuk



scale 1:250000

Station: Tuktoyaktuk A

Latitude: 69° 26'N
Elevation: 6 m

Longitude: 133° 02'W
Period of Record: 1970-present

Comments:

(1) This site is located 1 mile south of the village of Tuktoyaktuk, 1/4 mile east of the Beaufort Sea shoreline and 1 mile from the DEWLINE site. Exposure is excellent and there are no obstructions.

(2) Freeze-up and break-up are observed on Kagmallit Bay and an unnamed lake near the station. Ice thickness is observed in the harbor.

(3) A change of elevation from 14 m to 5 m occurred in Oct. 1973.

(4) Observations from 1974 are of doubtful quality due to staffing difficulties.

(5) Due to instrument problems all wind direction data from June 2, 1977 to May 17, 1978 are suspect.

(6) The exposure of the raingauge, Nipher snowgauge and stevenson screen were compromised in the summer and fall of 1983 and again in January of 1985 due to the storage of gravel and fuel drums near the observing site. In Sept. of 1988 the site was relocated such that it had improved exposure (especially for wind) and would be less influenced by local buildings.

Location of Gaps in 'DLY' File

2203912 Tuktoyaktuk A* 003 Daily Mean Temp (C)

70/04/01-70/04/14 70/05/01-70/05/31 70/09/22-71/02/18 71/09/08-72/02/29 72/09/13-73/02/28 73/04/14-73/05/06
73/08/01-73/10/07 78/05/01-78/05/31 87/04/19-87/04/30

Period of Record *** 1970/04-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	18	10	9	1	1								1		1									1				6

2203912 Tuktoyaktuk A 012 Total Precipitation (mm)

70/04/01-70/04/14 70/05/01-70/05/31 70/09/22-71/02/18 71/09/08-72/02/29 72/09/13-73/02/28 73/04/14-73/05/06
73/08/01-73/10/07 78/05/01-78/05/31 79/10/17-79/10/29

Period of Record *** 1970/04-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
														1	1									1				6

* gaps identified by dates are only those longer than 7 days

Temperature Series Homogeneity Report

Station

Tuktoyaktuk A., N.W.T. 2203912

Site Co-ordinates

69°26'N 133°02'W 4.6m

Period of Analysis / Total Number of Months in Analysis

1974-1988 / 180 months

Missing Data at Base

Maxima: 1 monthly value is missing - .6% of total.
Minima: 2 monthly values are missing - 1.1% of total.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base
1. Komakuk Beach A.	2100685	13.7m	279 km 277°
2. Tuktoyaktuk	2203910	18.3m	2 km 35°
3. Shingle Point A.	2100950	55.5m	174 km 254°
4. Nicholson Peninsula	2202750	97.6m	167 km 69°

Analysis

1. Maximum Temperature Series

Homogeneous.

2. Minimum Temperature Series

Homogeneous.

Station History

Not yet extracted.

Oct. 17, 1990
LM

Station: Tungsten

Latitude: 61° 57'N
Elevation: 1143 m

Longitude: 128° 15'W
Period of Record: 1966-present

Comments:

(1) In 1968, during construction, the site representativeness was compromised.

(2) The wind tower was damaged in 1974, and not repaired until 1975, resulting in a fair bit of missing data. As well in Feb., 1978 it was noted that an incorrectly wired anemograph was resulting in erroneous data. It is not known whether or not the data was subsequently corrected.

(3) A number of snow surveys were done in 1975/76.

(4) In 1976 it was noted that the raingauge was at a non-standard height (45"); it was changed in 1979.

(5) This site is located in a long narrow flat river valley, in the Liard drainage basin, near the Logan Mountains. No more detailed site description is available.

Location of Gaps in 'DLY' File

2203922 Tungsten* 003 Daily Mean Temp (C)

68/04/01-68/04/30	69/04/09-69/04/23	70/03/31-70/05/31	70/10/17-70/10/25	72/06/01-72/07/02	73/09/12-73/09/20
74/03/26-74/04/02	75/04/30-75/05/31	81/07/17-81/08/02	81/10/01-81/10/31	82/03/31-82/04/30	83/09/13-83/09/28
84/01/31-84/02/21	84/12/28-85/01/10	85/10/11-85/10/22			

Period of Record *** 1966/10-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	84	231	67	28	8	6	2	1	2			1		1	1	1	1					1						6

2203922 Tungsten* 012 Total Precipitation (mm)

67/05/05-67/05/15	68/04/01-68/05/31	68/10/01-68/11/17	69/04/01-69/05/31	70/04/01-70/05/31	72/06/01-72/06/30
75/05/01-75/05/31	81/07/17-81/08/08	81/10/01-81/10/31	82/04/01-82/04/30	83/09/13-83/09/27	84/02/01-84/02/20
85/01/01-85/01/08	85/10/11-85/10/22				

Period of Record *** 1966/10-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	24	2	2	2	2	1		1			1	1			1						1		1					8

* gaps identified by dates are only those longer than 7 days

Temperature Series Homogeneity Report

Station

Tungsten, N.W.T. 2203922

Site Co-ordinates

61°57'N 128°15'W 1143.3m

Period of Analysis / Total Number of Months in Analysis

Not tested. Base isolated during period of available data.

Missing Data at Base

Maxima:
Minima:

Reference Series

	Name	Number	Elev.	Dist./ Dir. from Base
1.				
2.				
3.				
4.				
5.				
6.				

Analysis

1. Maximum Temperature Series

2. Minimum Temperature Series

Station History

Not yet extracted.

Oct 16, 1990
LM

Tungsten

Tungsten

scale 1:250000

Station: Wrigley A

Latitude: 63° 13'N
Elevation: 150 m

Longitude: 123° 26'W
Period of Record: 1952-present

Comments:

(1) Documentation in the early years is sparse; it appears that there was a location change early on.

(2) In the 1950's and 60's there were a number of instrument changes and irregular readings. Since 1968 the station has been more stable, with good inspection reports.

(3) Prior to April 1983, the instrument location was 63° 12'N, 123° 25'W with an elevation of 156 m.

(4) Freeze-up and break-up is observed on the Mackenzie River.

(5) A 1985 note indicates that there was a problem with the wind speed sensor.

(6) The following site description was taken from a 1978 inspection report.

> "Wrigley airport is situated on the north shore of the Mackenzie River in the Franklin Mountains. Ten miles to the east of the site lies the McConnell range rising to 4,500 ft. above station level and running in a north to south direction. Ten miles to the southwest of the station is the northern tip of the Camsell range rising to 3,000 ft. and extending in a southerly direction. Forty-five miles to the west of the station is the eastern slope of the Mackenzie mountains, with the terrain rising to 4,000 ft above station level. The Mackenzie River extends in a northwest to southeast direction past the site of Wrigley. The Mackenzie Valley is 40 miles wide, north of Wrigley, narrowing to 20 miles about 8 miles southwest of the station. The valley have a tendency to produce a funnel effect on the wind.
>
> Fog that forms over the river spills onto the airport, reducing ceilings and visibilities to near zero. The river, one mile in width, is located 1/2 mile from the south side of the runway."

The airstrip it about 75 ft. above the river with good exposure. The country is level to slightly rolling with some woods. The instruments are located just south of the Wrigley airport building.

Community History:
(source- Canada North Almanac, 1977)

Location: 63 degrees 16 minutes north, 123 degrees 37 minutes west; on the east bank of the Mackenzie River; 120 air miles north of Fort Simpson; 290 air miles northwest of Yellowknife.

Population: 212. **Languages Spoken:** Slavey and English.

History: When Fort Alexander was closed in 1821, the Slavey Indians settled down at Old Fort Island, 24 miles from the present site of Wrigley. In 1905, the site was abandoned due to famine and tuberculosis and the Dene condemned the settlement. Some of the population settled on a new site 30 miles down-river. The latter site was called Fort Wrigley.

The priest who served at Old Fort Island joined the population of about 75 Indians at Fort Wrigley in 1910. The Indians of Fort Wrigley were still semi-nomadic; they scattered along the Mackenzie River and came together at Treaty time.

By 1960, the population at Fort Wrigley had grown to 128; in 1958 the Federal Government had opened a one-room school with a teacher's residence and a power plant. In 1960, the Department of Indian Affairs took steps to improve housing conditions in the settlement. However, in subsequent years, the Government discouraged improvements because the location was very poor. In 1965, after much consultation and debate, the settlement was moved to its present site. The new site is suitable for further development and is near an airport built by the American Army in 1944, now maintained by the M.O.T. as an emergency airstrip. In the summer of 1966, 15 new houses were constructed and in September of the same year barges brought the Church, the Hudson's Bay Store, residence and warehouse. The school and teachers' residence were also moved by barge. A population of 175 Dene settled in to make Wrigley their home.

Hunting, trapping and some work with the local Co-op are the bases of the economy of the settlement today.

Location of Gaps in 'DLY' File

2204000 Wrigley A* 003 Daily Mean Temp (C)

43/12/01-44/01/31	46/10/01-47/06/10	47/09/16-48/07/26	49/01/01-49/02/04	49/11/22-50/02/28	50/04/07-50/05/13
50/10/01-50/10/31	52/11/01-53/02/28	54/01/16-54/01/31	55/05/01-55/09/30	61/04/01-61/05/31	71/12/01-71/12/31
75/12/01-76/01/31	78/12/19-79/01/02	79/04/01-79/04/30	79/10/06-79/10/22	79/12/19-80/06/02	80/12/27-81/01/13
81/03/11-81/05/27	81/06/14-81/06/29	81/12/15-82/01/31	82/06/18-82/07/12	83/07/16-83/08/14	83/12/08-84/01/29
84/08/20-84/09/05	84/12/01-84/12/31	85/08/28-85/09/15	86/01/21-86/03/24		

Period of Record *** 1943/08-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	445	200	28	9	5	4	5	1		1		1		4		1	2	2	1	1						1		20

2204000 Wrigley A* 012 Total Precipitation (mm)

43/12/01-44/01/31	46/10/01-47/06/10	47/09/16-48/07/08	50/10/01-50/10/15	52/11/01-53/02/28	55/05/01-55/09/30
56/05/01-56/06/30	56/08/01-56/09/30	61/06/01-61/08/31	71/12/01-71/12/31	75/12/01-76/01/31	79/04/01-79/04/30
79/10/05-79/10/21	79/12/19-80/05/31	80/10/01-80/11/03	80/12/24-81/01/13	81/02/01-81/03/02	81/06/14-81/06/29
83/07/16-83/08/13	84/12/01-84/12/31	85/09/01-85/09/14	88/12/17-88/12/31		

Period of Record *** 1943/08-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	137	5	14	1	6	3	4	1	3	2		3	3	1	1	1	1				1							16

* gaps identified by dates are only those longer than 14 days

Temperature Series Homogeneity Report

Station

Wrigley A., N.W.T. 2204000

Site Co-ordinates

63°13'N 123°26'W 150.0m

Period of Analysis / Total Number of Months in Analysis

1951-1979 / 348 months

Missing Data at Base

Maxima: 12 monthly values are missing - 3.4% of total
Minima: 15 monthly values are missing - 4.3% of total

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base
1. Norman Wells A.	2202800	67.1m	282 km 326°
2. Yellowknife A.	2204100	205.5m	464 km 96°
3. Hay River A.	2202400	165.5m	479 km 120°
4. Yellowknife Hydro	2204200	159.5m	469 km 93°

Analysis

1. Maximum Temperature Series

Uncertain. Poor reference series.

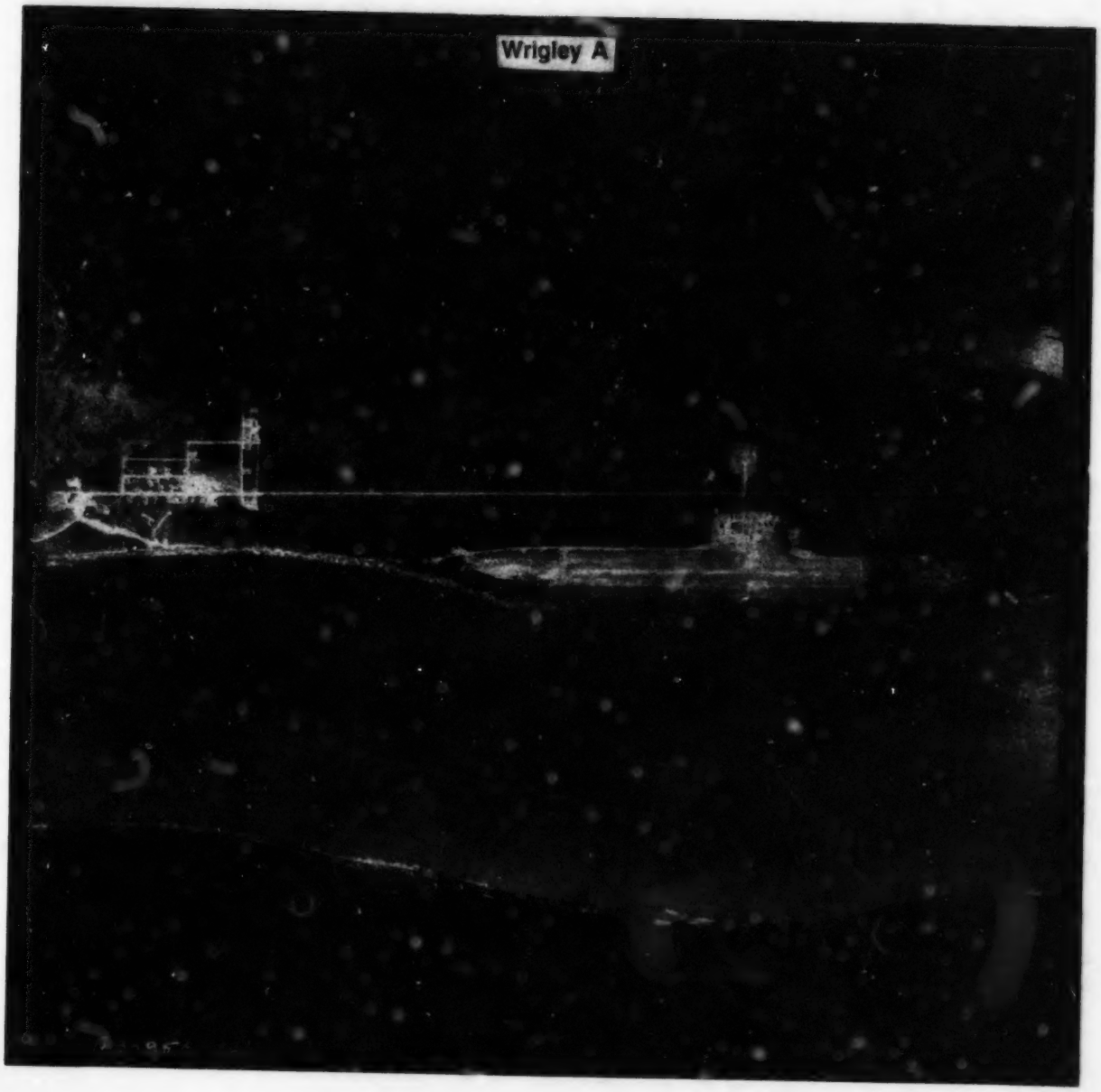
2. Minimum Temperature Series

Uncertain. Poor reference series.

Station History

Not yet extracted.

Oct. 17, 1990
LM


Wrigley A

Wrigley A

scale 1:250000

Station: Yellowknife A

Latitude: 62° 28'N
Elevation: 205 m

Longitude: 114° 27'W
Period of Record: 1942-present

Comments:

(1) A 5-point snow course was run since 1965, but relocated in 1979.

(2) It was noted in 1965 that snow drifting due to airplanes running their engines was a problem. In 1968 some instruments were relocated further away from the airplanes.

(3) Freeze-up and break-up as well as ice thickness are observed.

(4) The site description which follows is taken from 1986 and 1972 site reports.

> "Yellowknife A is located 3 miles northwest of the city of Yellowknife. The surrounding country rises, from Great Slave Lake to the south (altitude 513 ft.) to the north and northeast, obtaining near 800 ft. ten miles away. Berry Hill, 11 miles NNE, appears to be the highest land mark... The area is generally undulating rock... Numerous lakes dot the depressed portions of the undulations. The largest body of water being Yellowknife Bay, joining Great Slave Lake and Prosperous Lake to the northeast.
>
> The undulating country consists mainly of bare rock, however frequent stunted trees and other vegetation manage to grow in what soil exists, mostly in depressions.
>
> No less than 8 small lakes are within a 2 mile radius of the station. The largest... is located 1/4 mile east. As is general to the area, bare rock and marsh characterize the surface."

In 1986, the site description indicated that the instruments were only 200 m from Long Lake, and 150 m east of the ATB. Therefore there appeared to be a small move between 1972 and 1986. Other notes of interest are that "ground cover in the instrument area consists of gravel and sparse vegetation. Utility poles and buildings south and west of the area may disrupt wind patterns over the instruments and dust can become a real problem..." Yellowknife is subject to a sea breeze during the summer.

Community History:
(source- Canada North Almanac, 1977)

Location: 62 degrees 27 minutes north, 114 degrees 21 minutes west; on Yellowknife Bay, north arm Great Slave Lake; 125 air miles northeast of Hay River; 600 air miles north of Edmonton.

Population: 9,950. **Languages Spoken:** Dogrib, English, Cree, French, Chipewyan, Slavey and most European languages.

History: Yellowknife, the capital of the Northwest Territories since 1967, is named after the Yellowknife Dene who moved into the area in the early 1800's.

The first white man to visit the shore of Great Slave Lake was Samuel Hearne, a Hudson's Bay Company officer. Hearne's sketch map of his travels in 1771 provided the first record of Great Slave Lake. The leader of the natives who guided Hearne on his trip, Matonnabee, was a Yellowknife Indian. As a result of Alexander Mackenzie's visit in 1789, a trading post, known as Fort Providence, was established near the mouth of Yellowknife Bay. This post was still in existence 31 years later when Franklin made his journey to the Coppermine River in 1820, but was abandoned shortly afterwards.

Gold was first discovered at Yellowknife Bay in 1896 by miners on their way to the Klondike. However, it was not until 1930 and the discovery of pitchblende on Great Bear Lake that further prospecting took place. In 1934, visible gold was found on the shores of Yellowknife Bay. In 1936-1937 Yellowknife was a 'boom-town' and, by 1940, the population of about 1,000 people was administered by the first Municipal Government in the Mackenzie District.

A number of companies, including Consolidated Mining and Smelting Company of Canada, began to sink shafts on the "Con", "Negus" and "Giant" claims during 1936 and 1937. Commercial gold production began in the Yellowknife district in December 1938. The Yellowknife development was halted in 1942 when two of the six mines were closed. By the fall of 1944 gold production from the area ceased entirely.

In 1945, a new rush started when the Giant Yellowknife Mine opened. By this time, the town was very overcrowded as it wrapped itself around the Bay in Old Town. A new townsite was surveyed and the building of the New Town commenced in 1947. By the end of 1947 the gold mines were once again in large-scale production. A particular factor which affected the expansion of the Yellowknife area was the completion in 1948 of a hydro-electric power station on the Snare River which did much to alleviate the shortages of power that had previously hindered operations in the area.

In the summer of 1953, Yellowknife became a Municipal District and its first mayor was elected. In 1967 Yellowknife was named capital of the Northwest Territories. The Commissioner of the Northwest Territories moved to Yellowknife with his immediate staff in September 1967. On January 1, 1970, Yellowknife became the first city in the Northwest Territories.

Today, Yellowknife is the hub of virtually all activities in the Northwest Territories, as can be witnessed by its excellent facilities and continued growth.

Location of Gaps in 'DLY' File

2204100 Yellowknife A 003 Daily Mean Temp (C)

88/12/17-88/12/31 43/01/18-43/01/19 45/03/31-45/03/31 45/10/04-45/10/11 46/12/30-46/12/31 47/09/21-47/09/21

Period of Record *** 1942/07-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	2	2						1							1													

2204100 Yellowknife A 012 Total Precipitation (mm)

44/12/01-44/12/31 49/05/09-49/05/09

Period of Record *** 1942/07-1988/12 ***

Freq of Gaps	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+ Days
	1																											1

Temperature Series Homogeneity Report

Station

Yellowknife A., N.W.T. 2204100

Site Co-ordinates

62°28'N 114°27'W 205.5m

Period of Analysis / Total Number of Months in Analysis

1944-1988 / 540 months

Missing Data at Base

Maxima: no missing data.
Minima: 1 monthly value is missing - .2% of total.

Reference Series

Name	Number	Elev.	Dist./ Dir. from Base
1. Hay River A.	2202400	165.5m	195 km 202°
2. Fort Smith A.	2202200	203.0m	304 km 153°
3. Yellowknife Hydro	2204200	159.5m	25 km 25°
4. Fort Resolution A.	2202000	164.0m	149 km 164°

Analysis

1. Maximum Temperature Series

Homogeneous.

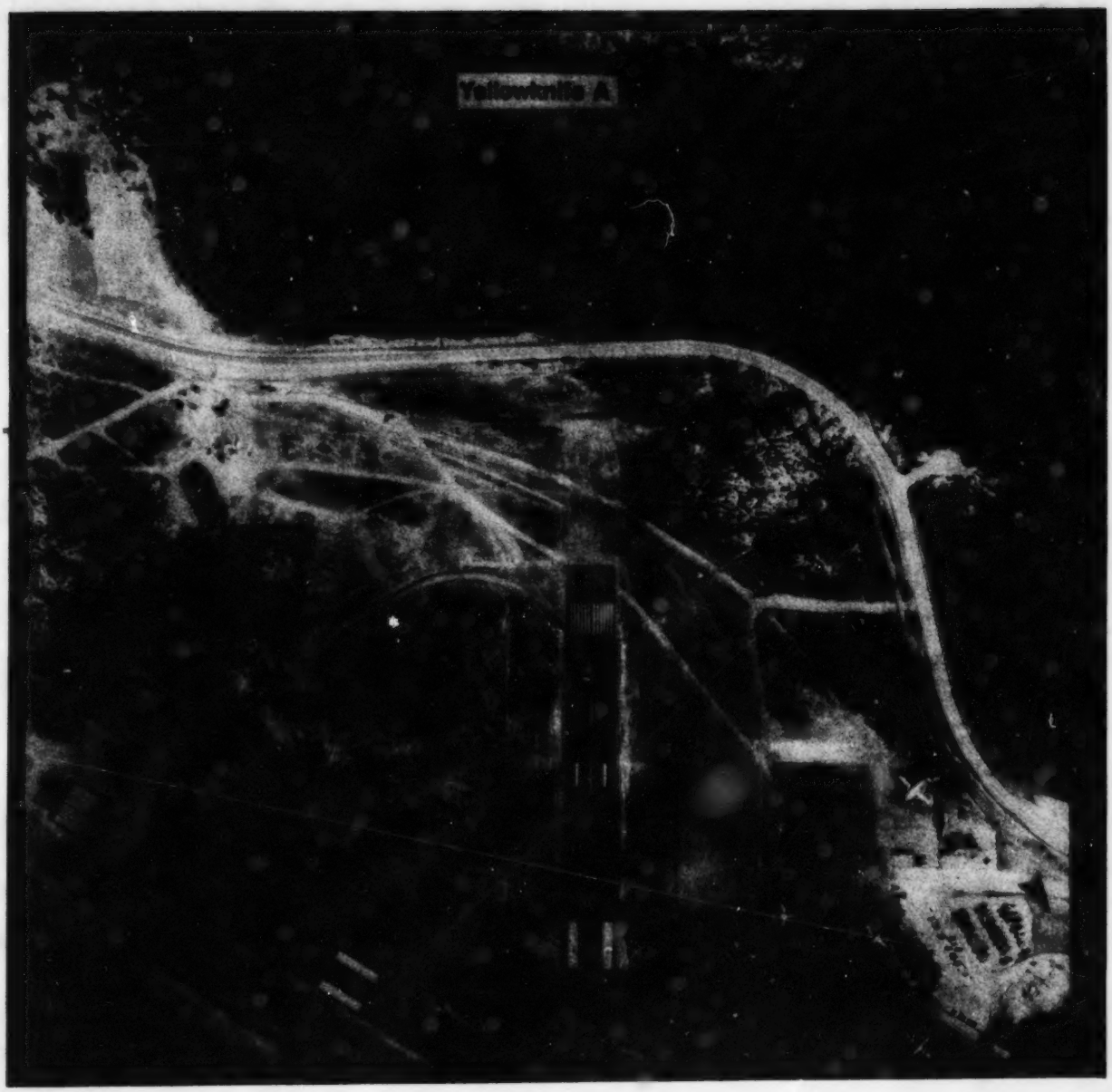
2. Minimum Temperature Series

Homogeneous.

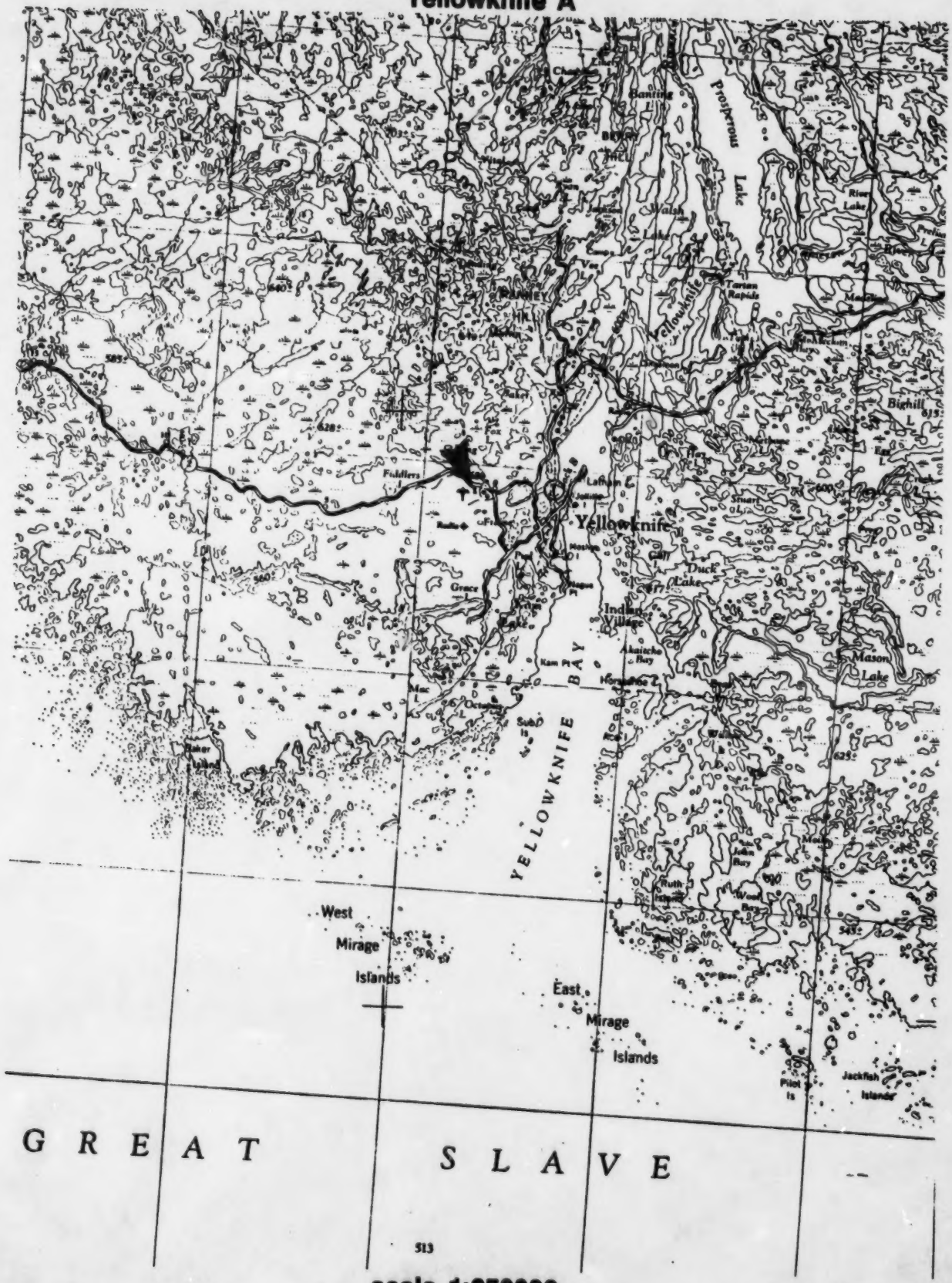
Station History

Not yet extracted.

Oct. 15, 1990
LM



Yellowknife A



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